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EXCAVATIONS AT TEPE GAWRA

VOLUME I

BY

E. A. SPEISER

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EDITORS

W. F. ALBRIGHT · MILLAR BURROWS · E. A. SPEISER

PUBLICATIONS OF THE BAGHDAD SCHOOL

TEXTS

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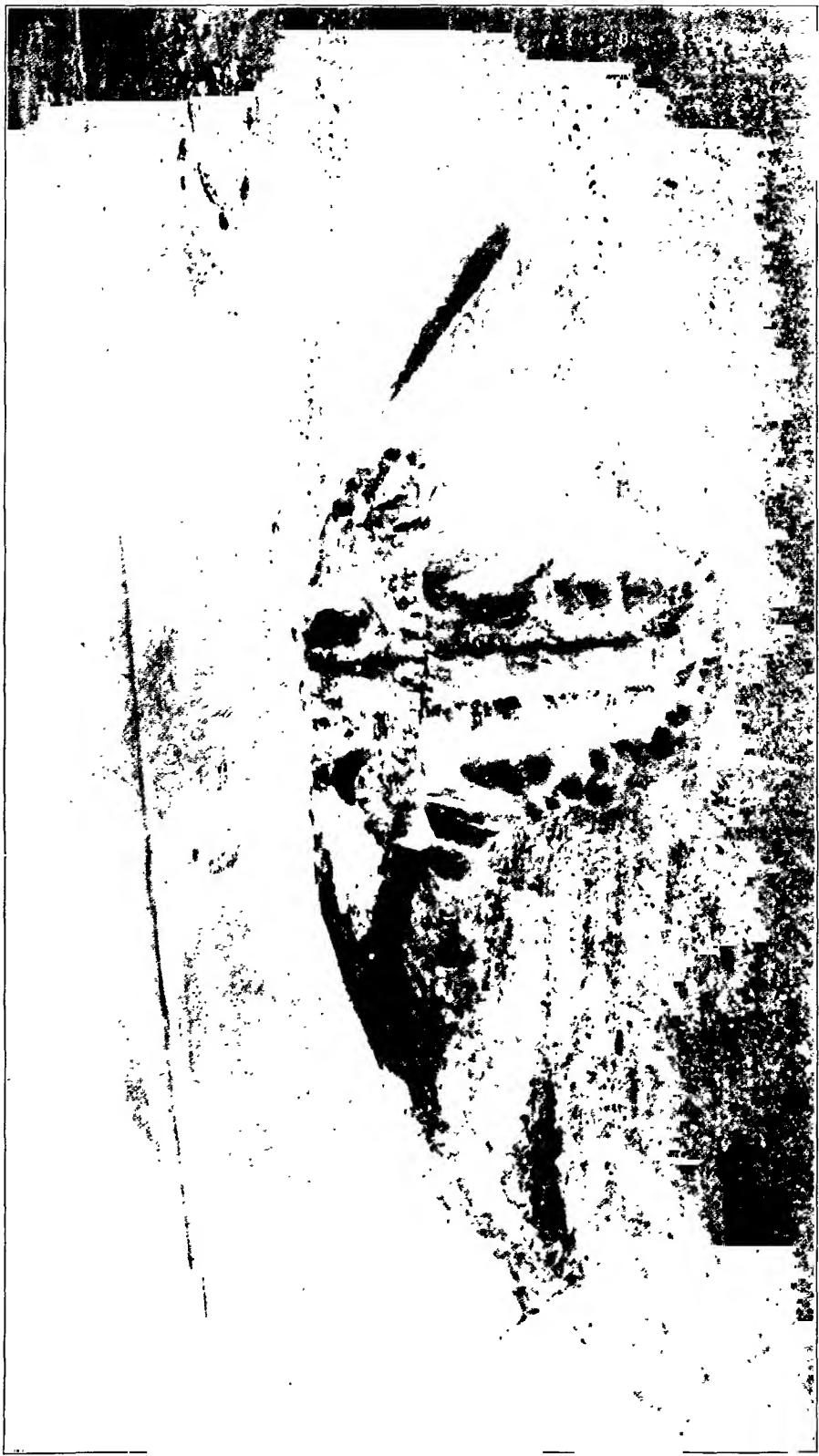
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EXCAVATIONS

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Tepe Gawra From the Air, November 1927

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2. *O. acanthocarpa*
3. *O. arborescens*



JOINT EXPEDITION OF THE BAGHDAD SCHOOL, THE UNIVERSITY
MUSEUM, AND DROPSIE COLLEGE TO MESOPOTAMIA

EXCAVATIONS AT TEPE GAWRA

VOLUME I

31877 LEVELS I-VIII

BY

E. A. SPEISER

*Professor of Semitics in the University of Pennsylvania and Director of
the American School of Oriental Research in Baghdad*

WITH A CHAPTER BY

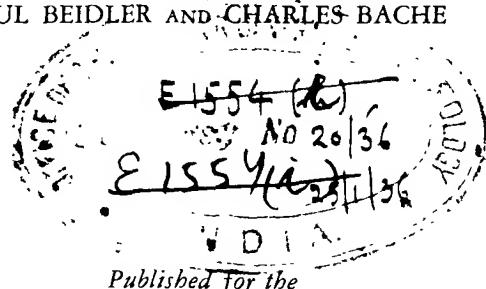
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To
DOCTOR CYRUS ADLER
First Sponsor of Gawra

PREFACE

Like so many other prefaces, the present one, too, begins with an apology; not for the publication of the book, however, but for its delayed appearance. When the testimony of antiquity, which had required millennia to accumulate only to lie buried for thousands of years more, has been unearthed at length and its proper context irrevocably destroyed in the process, a record of the results becomes the sole means of accounting for such interference with the ways of time. Tepe Gawra has provided us with an invaluable cross-section through many stages of Mesopotamian prehistory and an admirable commentary on the early historical age. This account was announced nearly a year ago, but various routine duties prevented a speedier accomplishment of the task. The book will betray, no doubt, the effects of intermittent writing. The added time that it took to achieve, however, has been utilized in repeated checking and rechecking of the countless details which furnish the basis for the final conclusions.

The method of presentation has been explained in the introduction. I have sought to give due prominence to the actual facts of excavation by relegating all comparative material to a separate and distinctly secondary section of this work. A detailed table of contents and a reasonably full catalogue will facilitate, it is hoped, the use of the text and illustrations.

The staffs of the three campaigns with which the present record deals are listed in the introductory part. Of the direct contributions of individual members some mention has been made in the text and on the title page. I take the present opportunity to express to all my other colleagues my sincere appreciation of their unfailing loyalty and co-operation.

Grateful acknowledgment is hereby made of the generosity of Ismail Beg el-Jalili and Dr. S. Jalili in allowing the expedition free use of the ground of Tepe Gawra. To the successive Directors of Antiquities in Iraq who held office between the years 1927 and 1932 I express my appreciation of their warm interest in our labors and the courteous performance of their duties. Mr. Sidney Smith and Dr. Julius Jordan encouraged us, furthermore, to draw freely on their scientific experience. To Tahsin Beg. Mutasarrif of the Mosul Liwa, and Administra-

tive Inspector Major W. C. Wilson I owe a debt of gratitude for giving the expedition their official and personal assistance. No. 30 Squadron of the British Royal Air Force was ever helpful in taking air photographs of the site; one of these has been reproduced here by permission of the Air Ministry.

Director Horace H. F. Jayne, of the University Museum, gave us every possible aid in the field and at home. Doctor George A. Barton, long-time Director of the American School of Oriental Research in Baghdad, has been an enthusiastic supporter of the work at Gawra from the very beginning. His warm personal interest has been to us always a source of encouragement, and the present results are in a large measure a tribute to his scientific foresight. President Cyrus Adler made possible the survey that resulted in the discovery of the mound. Debts of this kind are not easily repaid.

President Millar Burrows was good enough to read through the manuscript and make a number of valuable suggestions. Miss Dorothy Cross assumed the ungrateful task of checking all the catalogue entries and assisting in the revision of the proof. Dr. P. J. Storm kindly checked and improved the petrological identifications.

I also wish to express my grateful appreciation to the University of Pennsylvania Committee on Research for a grant of \$350 for clerical and technical assistance in the preparation of the typescript and the plates.

E. A. S.

September 7, 1935.

TABLE OF CONTENTS

PART I: INTRODUCTORY

	PAGE		PAGE
The Highland Zone and the Plain	1	Archaeological prospects	5
Location of the site	2	Preliminary campaign in 1927	6
Shape of the mound	2	Two subsequent seasons	7
Layard's trenches	3	The staffs of the expeditions	7
Survey of the district	3	Designation of areas	8
Surface indications	4	Method of presentation	9

PART II: ACCOUNT OF THE FINDS

CHAPTER 1. ARCHITECTURAL REMAINS	11-37		
Growth of the site	11	<i>VIII-C:</i> Western Temple; Central Shrine; Eastern Temple; Northern Shrine; Other structures	24
a. Stratum <i>I</i>	12	<i>VIII-B:</i> changes; storage rooms	30
b. Stratum <i>II</i>	13	<i>VIII-A:</i> changes; the New Quarter; streets; vaulted hall; dependence on the past	32
c. Stratum <i>III</i>	13		
d. Stratum <i>IV</i>	14		
e. Stratum <i>V</i>	16		
f. Stratum <i>VI</i>	18		
g. Stratum <i>VII</i>	21		
h. Stratum <i>VIII</i>	22		
Character of the substrata	23		
CHAPTER 2. POTTERY BY DOROTHY CROSS	38-61		
Scope of the present account	38	teristics; reserved slip ware; bowls and strainers; cups; pots; small jars; large jars; "fountain head pot"; varia	49
a. Unstratified material	38		
b. Stratum <i>VIII</i> : general characteristics; bowls; deep bowls and pots; cups; jars; varia	41	e. Stratum <i>V</i> : usual specimens; varia	56
c. Stratum <i>VII</i> : general characteristics; bowls; cups and chalices; bottles; spouted jars; plain jars and pots; varia	44	f. Stratum <i>IV</i> : general characteristics; individual specimens; varia; out-of-place material	58
d. Stratum <i>VI</i> : general charac-		g. Strata <i>III-I</i>	61

CONTENTS

CHAPTER 3. TERRACOTTA OBJECTS	62-82
PAGE	
Classification	62
a. Terracotta models	63
Human figurines	63
Statuette	65
Animal figurines	66
Figurines of horses	68
Horns	73
Vehicles	73
Wheels	75
Other models	76
b. Miscellaneous clay objects	77
Spindle whorls	78
Spools and bobbins	78
Sling pellets	80
Mosaic bricks	80
Pottery smoothers	81
Nails and cones	81
Stamps and moulds	81
Hemiovoids	82
Gaming pieces	82
CHAPTER 4. STONE OBJECTS	83-100
PAGE	
Character of the Gawra cultures	83
a. Implements of flint and obsidian	84
b. Celts	85
c. Mace-heads	86
d. Other tools and weapons	87
e. Weights: general remarks; marked weights; unmarked	
specimens; suspension weights; foreign systems	89
f. Vessels: palettes and paint mortars; mortars; moulds; pedestaled objects; other vessels	96
g. Figurines	98
b. Varia: stand; phallic object; tablet; "hut symbol"	99
CHAPTER 5. COPPER OBJECTS	101-115
PAGE	
Copper and bronze	101
Analysis of two specimens	102
Large tin content in prehistoric specimens	102
Distributional table	103
Chalcolithic and Copper ages	104
Socketed objects: a. Adzes; b. Axes; c. Pick-head	105
Knives and daggers	106
Spear	106
Spear- and arrow-heads	107
Sickles	107
Razors	107
Chisels	107
Needles	108
Awls	108
Nails and hooks	108
"Frying pan"	109
Tongs	109
Ferrules	109
Pins	109
Hairpins	110
Bracelets and anklets	110
Rings	111
Toilet instruments	111
Animal representations	111
Varia	112
Tabular summary	114
CHAPTER 6. BONE OBJECTS	116-117
CHAPTER 7. SEALS AND SEAL IMPRESSIONS	118-132
General remarks	118
Stamp and cylinder seals	119
Chronological division at Gawra	120
Arrangement of the catalogue	120

CONTENTS

xi

	PAGE		PAGE
A. Stamp seals and impressions	121	j. Human figures	124
a. Unstratified	121	Summary	125
b. Geometric designs	122	B. Cylinder seals	126
c. Single animals	122	Method of classification	126
d. Groups of animal and serpent	123	a. Stratum VII	126
e. Animals superposed	123	b. Stratum VI	127
f. Animals opposed, reversible style	123	c. Stratum V	131
g. Animals crossed	123	d. Stratum III	131
h. Animals rotating	124	Summary	131
i. Miscellaneous groupings	124	e. Seal impression from Stratum IV	132
CHAPTER 8. BEADS, AMULETS, AND MISCELLANEOUS ORNAMENTS			133-139
General remarks	133	b. Animal amulets	136
Beads	133	c. Figurines of the mother goddess	138
Pendants and amulets	135	Miscellaneous ornaments	138
a. Pendants	136		
CHAPTER 9. BURIALS			140-143
Nature of the remains	140	Temple burials	142
Burials in Square M12	140	Loose skeletons	143
Stratum VIII	141		
PART III: COMPARISONS AND RESULTS			
CHAPTER 1. INTRODUCTION			144
CHAPTER 2. FOREIGN RELATIONS			145-176
General remarks	145	Stratum IV	160
a. Architectural remains	146	Strata III-I	160
Stratum VIII	146	c. Terracotta objects	161
Stratum VI	149	Stratum VIII	162
Strata V-IV	149	Stratum VI	162
b. Pottery	150	d. Stone objects	164
Prior to Stratum VIII	151	e. Copper objects	166
Stratum VIII	152	f. Seals and seal impressions	168
"Billia ware," Gawra VIII-A-VII	153	Stamp seals	168
Stratum VII	157	Cylinder seals	171
Stratum VI	158	g. Varia	173
Stratum V	160	Summary	174

CONTENTS

CHAPTER 3. THE DATING OF THE STRATA	177-183
PAGE	
Prehistoric civilizations in Meso- potamia	177
The three stages at Gawra	178
Stratum <i>VI</i>	179
Stratum <i>VII</i>	180
Date of the Billa ware and of Nineveh <i>V</i>	180
Stratum <i>VIII</i>	182
The dating of the remaining strata	182
Chronological table	183
CHAPTER 4. GENERAL RESULTS	184-189
Significance of the site	184
The importance of Gawra <i>VIII</i> and <i>VI</i>	184
Ethnic problems	186
Bearing on the Sumerian ques- tion	187
The historical period	188
Future tasks	189
PART IV: CATALOGUE OF THE ILLUSTRATED SPECIMENS	190-210
ABBREVIATIONS	211
INDEX	213-220

LIST OF ILLUSTRATIONS

Frontispiece; Tepe Gawra from the Air, November 1927. (Published by permission of the Air Ministry.)

- Plate I: Contour map of Tepe Gawra.
Plate II: Tepe Gawra, Stratum *I*.
Plate III: Tepe Gawra, Stratum *II*.
Plate IV: Tepe Gawra, Stratum *III*.
Plate V: Tepe Gawra, Stratum *IV*.
Plate VI: Tepe Gawra, Stratum *V*.
Plate VII: Tepe Gawra, Stratum *VI*.
Plate VIII: *a.* Well and stone foundations from terrace of Gawra *VI*.
b. Tepe Gawra, Stratum *VII*.
Plate IX: Tepe Gawra, Stratum *VIII-A*.
Plate X: Tepe Gawra, Stratum *VIII-B*.
Plate XI: Tepe Gawra, Stratum *VIII-C*.
Plate XII: Relation of certain walls of *VIII-C* to temples of *IX* and *X*.
Inset: position of infant burials under Eastern Temple, *VIII-C*.
Plate XIII: Section through vault, Room 846.
Plate XIV: Top: podium and sections, Room 802.
Bottom: podium and sections, Room 808.
Plate XV: *a.* Elevation of door, Room 866.
b. Bonding of niches, Rooms 872 and 875.
Plate XVI: Bonding in Rooms 804, 811, and 820, and of niches in Rooms 818 and 837.
Plate XVII: *a.* View of southwesterly trial trench.
b. Group of workmen.
Plate XVIII: Tepe Gawra from the northwest at the end of the second campaign.
Plate XIX: *a.* Steps leading to cella, Room 409.
b. Gawra *IV* viewed from the east corner of Room 406.
Plate XX: *a.* Altar and wall-bench in Room 407, from the east.
b. Foundations in Gawra *VI*, east corner.
Plate XXI: *a.* Skeleton in courtyard 830.
b. Ramp (835) looking toward courtyard 830.
c. Ramp (835), seen from the courtyard.
Plate XXII: *a.* The Western Temple in Gawra *VIII-B*.
b. Niche and window in Room 825.
Plate XXIII: *a.* Southwest Street in Stratum *VIII-A* seen from the northwest.
b. Doorway in Room 866.
Plate XXIV: *a.* Part of vault, Room 846.
b. Basin in Room 832.

LIST OF ILLUSTRATIONS

- Plate XXV: a. Top of well in Stratum *VIII-B*, Square J7.
 b. Podium in Room 808.
- Plate XXVI: Painted pottery from trial trench, Stratum *XIII*.
 a. Bowl. b. Cup. c. Burial Urn.
- Plate XXVII: a. Selected pottery from Stratum *VI*.
 b. Selected pottery from Stratum *VIII*.
- Plate XXVIII: a. Cult objects from Tepe Gawra (Nos. 1-4) and Tell Billa (No. 5).
 b. Nos. 1-2. Pottery from Stratum *VII* re-used in shrine of Stratum *IV*;
 Nos. 3-4. Cult objects from Stratum *VI*;
 No. 5. Spouted vessel from Stratum *VIII*.
- Plate XXIX: a. Chalice from trial trench at level of Gawra *VII*.
 b. Pottery basket from Stratum *IV*.
- Plate XXX: Incense burner from Stratum *IV*.
- Plate XXXI: a. Pottery smoothers from Stratum *VIII*.
 b. Ladies from Stratum *VIII*.
- Plate XXXII: Human figurines of clay (Nos. 1 and 4—Stratum *VI*; Nos. 2 and 3—unstratified).
- Plate XXXIII: Terracotta statuette from the well in Square J7, probably Stratum *V*.
- Plate XXXIV: a. Terracotta hedgehog from Stratum *V*.
 b. Terracotta head of horse from Stratum *VI*.
 c. Selected terracotta figurines.
- Plate XXXV: a. Terracotta figurine of wheeled animal and "covered wagon" from Stratum *VI*.
 b-c. Terracotta couch from Stratum *VI*.
- Plate XXXVI: Selected terracotta figurines.
- Plate XXXVII: a. Gaming piece from Stratum *VI*.
 b. Terracotta stamps from Stratum *VI*.
 c. Terracotta whorls and bobbins.
- Plate XXXVIII: a. Flint implements.
 b. Obsidian implements.
- Plate XXXIX: a. Selected celts.
 b. Flint and obsidian cores.
- Plate XL: a. Selected mace-heads.
 b. Rubbing stones, hammers and battle axes.
- Plate XLI: a-b. Selected stone implements.
- Plate XLII: Selected stone implements and weapons.
- Plate XLIII: a. Scale weights.
 b. Diorite tablet from trial trench, unstratified.
- Plate XLIV: a. Stone palettes and paint mortars.
 b. Model vessels of stone (No. 1) and pottery (No. 2).
 c. "Hut symbol," probably from Stratum *IX*.
 d. Marble bowl from trial trench, unstratified.
- Plate XLV: a. Limestone statuette from Stratum *III*
 b. Mortar and pestle from Stratum *IV*.

- Plate XLVI: a. Marble stand from Stratum VI.
 b. Phallic object of gabbro from Eastern Temple, Stratum VIII-A.
- Plate XLVII: Sandstone mould for casting copper objects, Stratum VI.
- Plate XLVIII: Selected copper implements.
- Plate XLIX: Selected copper objects from Stratum VI.
- Plate L: Selected copper ornaments and implements.
- Plate LI: a. Copper tongs from Stratum VI.
 b. Copper "frying pan" from Stratum VI.
- Plate LII: a. Bone object with turquoise inlays, Stratum VIII.
 b. Selected bone objects.
- Plate LIII: a. Selected beads from Stratum VIII.
 b. Stone amulets (Nos. 1-3), shell inlay (No. 4), and pottery pendant (No. 5).
- Plate LIV: a. Marble mother goddess figurine from Stratum VI.
 b. Gold ornaments.
 c. Beads and amulets from Stratum VIII.
- Plate LV: a. Ivory plaque from Stratum VIII.
 b. Seal impressions on clay from Stratum VIII.
- Plate LVI: Stamp seals and seal impressions.
- Plate LVII: Stamp seals and seal impressions.
- Plate LVIII: Stamp seals, seal impressions and fragment of cylinder seal (Fig. 42).
- Plate LIX: Cylinder seals.
- Plate LX: Cylinder seals.
- Plate LXI: Cylinder seals and seal impressions (Fig. 72).
- Plate LXII: Trial trench Pottery from levels preceding Stratum VIII.
- Plate LXIII: Pottery from Stratum VIII.
- Plate LXIV: Pottery from Stratum VIII.
- Plate LXV: Pottery from Stratum VII.
- Plate LXVI: Pottery from Stratum VII.
- Plate LXVII: Pottery from Stratum VI.
- Plate LXVIII: Pottery from Stratum VI.
- Plate LXIX: Pottery from Stratum VI.
- Plate LXX: Pottery from Stratum VI.
- Plate LXXI: Pottery from Stratum V.
- Plate LXXII: Out-of-place pottery associated with Stratum IV.
- Plate LXXIII: Pottery from Strata IV-I.
- Plate LXXIV: Cult objects, pottery stands, and lamp.
- Plate LXXV: Miscellaneous pottery.
- Plate LXXVI: Figs. 1-14: Pottery fragments; Figs. 15-20: stone vessels.
- Plate LXXVII: Terracotta figurines.
- Plate LXXVIII: Terracotta models and whorls.
- Plate LXXIX: Terracotta bobbins.
- Plate LXXX: Miscellaneous terracotta objects.

- Plate LXXXI: Flint and obsidian implements.
Plate LXXXII: Copper and bone objects.
Plate LXXXIII: Selected beads.
Plate LXXXIV: Selected pendants, amulets, and gold ornaments.
Plate LXXXV: Miscellaneous ornaments.
Plate LXXXVI: Map of Mesopotamia.

I. INTRODUCTORY

HAVING skirted the mountains of Kurdistan for hundreds of miles, the Tigris encounters at Eski Mosul a wall of hills that block its southward course and force it to turn sharply to the east (Cf. Pl. LXXXVI). Twenty miles farther down, the river passes between modern Mosul and the mounds of ancient Nineveh. Nimrud and the ruins of Calah lie on the left bank another twenty miles below, near the juncture of the Tigris and the Upper Zab. Between Eski Mosul and Nimrud the river valley is comparatively narrow. A line of low hills constituting the eastward expansion of the Sinjar range forms the obstruction to the right. The rise is hard by the river, but immediately beyond it begins the monotonous plain of Mesopotamia. The elevation to the left, in the northeasterly direction, is gradual and at first almost imperceptible. The nearest range is about twenty miles away; but these hills are not isolated as are those across the river. They are merely the foothills of a massive complex of mountains consisting of a series of parallel ranges, each loftier than the preceding one, all radiating, as it were, from the majestic summits of Ararat. In the latitude of Mosul the Tigris may therefore be viewed as the natural border between the Highland Zone and the Plain. This line of demarcation has a profound historical significance. In terms of cultural affiliations, the districts on the right bank have been exposed throughout the ages to Lowland influences; conversely, the area that slopes down to the left bank has forever borne the stamp of Highland orientation. Ancient Nineveh was originally a Highland center. Nebi Yunus,¹ its present-day representative, has a population that still proclaims its northern origin through Turkoman features and a Turkish dialect. Mosul, on the other hand, crowded against the right bank, remains overwhelmingly Arabic.

¹ Place and personal names are listed in a conventionalized form, without introducing special characters or diacritics. It may be of interest, however, to remark that Bashiqah, the name of the village in which our headquarters were situated, goes back to an older Aramaic form *Bâ-Hêšiqeh*. The element *bâ-*, for older *bait-* is a common one in the neighborhood of Mosul.

The reader will note (without much annoyance, I trust), such minor inconsistencies in spelling as *metre* by the side of *center* and *bereaved* alongside of *modeller*, *modelled*. In such instances it is sometimes difficult to gauge the preferences in current scientific usage. The use of the form *liwān*, with makron, is due to the comparative novelty of this word in an English context.

The district to the north and northeast of Nineveh is marked by a number of ancient mounds. The tallest and most impressive of these landmarks was named by neighboring villagers *Tepe Gawra*, "The Great Mound;" the Arabs of Mosul know it by the less colorful designation of *Tell Ali Beg*, after a former owner of the site. The distance from Mosul to Gawra is about fifteen miles, the direction being north-northeast. A little over two miles to the west lie the ruins of Dur-Sharrukin and the huts of modern Khorsabad. The nearest village is Fadhiliyah, situated about a mile and a quarter to the north of the mound, at the foot of Jebel Bashiqa, the western spur of the imposing Jebel Maqlub. Fadhiliyah owes its existence, and much of its present attractiveness, to a brook which originates at the foot of the mountain that hemms in the north part of the village. The same body of water was no doubt responsible for the first settlement at Gawra; the wadi passes by the northeast edge of the tell, but the water is now diverted to the orchards of the village and is eventually carried off by the Khosr.

Protected thus by a range of hills and favored by a stream, the original settlement of Gawra enjoyed an excellent location. Moreover, it lay close to an important pass, formed by the Khosr in its southerly course towards the Tigris, and it faced upon the fertile plain of Nineveh. Little wonder, therefore, that the site was never abandoned for any considerable period, so long as it offered sufficient room for a township or a religious center. ChENCHI,² which lies two miles to the south, was not rebuilt after its desertion early in the third millennium, to judge from the evidence of surface finds. Magganubba, the predecessor of Dur Sharrukin, had not attracted much attention until Sargon found it expedient to transfer thither the capital of Assyria. But Gawra rose steadily, stratum after stratum, gradually assuming the shape of a truncated cone. With each new occupational layer, however, the habitable area at the top would shrink considerably. There was no room in the later stages of the mound for more than a small citadel or a shrine; the settlement proper must be built on the plain below, or else a new location must be found for it elsewhere. At length the place became too tall and narrow for practical use: the cone had rounded out at the top. When Gawra finally came to be abandoned it was solely because the site had accomplished the full span of a mound's existence. And yet, in spite of this long and continued history, the

² See now the *Third Preliminary Report* of the Iraq Expedition of the Oriental Institute (*Asm. III*), p. 89.

uppermost stages date back to the middle of the second millennium. From the palaces of Dur Sharrukin Gawra could be seen only as a lofty landmark in the direction of the rising sun. Sargon may have been impressed by this already ancient tell and meditated on the fate of its last inhabitants. In his days the mound must have been close to twenty-five metres in height.³

The first one to take an active interest in the scientific opportunities of the site was Layard. His remarks on the subject deserve to be given in full: "Near Futhliyah, and about 2.2 miles from the palace of Khorsabad, is a lofty conical Tel visible from Mosul, and from most of the surrounding country. It is one of those isolated mounds so numerous in the plains of Assyria, which do not appear to form part of any group of ruins, and the nature of which I have been unable to determine. Its vicinity to Khorsabad led me to believe that it might have been connected with those remains, and might have been raised over a tomb. By my direction deep trenches were opened into its sides, but only fragments of pottery were discovered. The place is, however, worthy of a more complete examination than the time and means at my disposal would permit."⁴ Eighty years ago the proper historical perspective was, of course, lacking. Assyrian sites had furnished the only examples of ancient town-planning along the Tigris, and Layard could not have thought in terms of Copper age centers, far back in pre-Assyrian times, which had grown up "isolated" and conical in shape. Nor was Layard's generation fully aware of the importance of ceramics. "Fragments of pottery" meant little at the time; but it was the evidence of precisely such fragments that was to lead ultimately to the excavation of Tepe Gawra.

It may be doubted whether the next visitor to investigate the archaeological prospects of Gawra was better equipped financially for such a task than Layard had been. The archaeological survey of Northern Iraq, in the course of which Gawra came to be examined, was made possible only through the cooperation of three institutions, namely, the American Schools of Oriental Research, the Dropsie College of Philadelphia, and the Guggenheim Memorial Foundation. The small appropriation for that survey had been nearly exhausted when I arrived at Gawra on April 25, 1927. For several days I had been studying

³ Assuming that the remains of Str. I were more substantial at the time than when we found them.

⁴ *Discoveries in the Ruins of Nineveh and Babylon* (London 1853), p. 132.

the region between Jebel Bashiqa and the Tigris and had visited a number of mounds which showed surface remains of the so-called prehistoric period. My principal chronological guide consisted of fragments of the characteristic painted pottery of the Chalcolithic age. I had found the same ware on several previous trips in the area between Mosul and Kirkuk. These finds testified to the wide occupation of the entire region in Chalcolithic times, promising thus some correlation between the early northern sites and the contemporary remains of Elam and Sumer. Since our knowledge of early Assyria was then very incomplete all mounds containing the pottery in question were carefully noted. But most of those had proved low and irregular, and few appeared to contain remains of the ensuing Copper age; they had evidently been deserted during the years that marked the transition from prehistory to history. Gawra, however, was a striking exception in more respects than one. It rose to a height of twenty-two metres and had a diameter of approximately one hundred and twenty metres at the base. Yet the surface finds were not of such comparatively recent date as the height and regularity of the mound might have led one to assume at first; evidences of the Assyrian and Persian occupations, so plentiful on the other tall sites in Northern Iraq, were wholly absent in this case. Instead, the lower two-thirds of the slopes of Gawra were strewn with sherds and implements of the Chalcolithic age, while the topmost remains belonged for the most part to the Early Copper age. In other words, by far the greater portion of the mound had grown up during prehistoric times. The upper part represented the early historical period, the time of the early Sumerian dynasties or of the kings of Agade, with some later remains in the narrow area at the top.

These were the tentative conclusions reached in the course of the surface examination of Gawra. There was little doubt as to the unique value of the site for the study of the cultural history of the district and, in a wider sense, of Mesopotamia as a whole. Twenty-two metres of occupational remains were practically certain to yield about a score of archaeological strata. Excavations on the site would thus result inevitably in obtaining a cross-section through several millennia of the history of Northern Mesopotamia.⁵ Moreover, the long period covered by the numerous layers of Gawra was but little known to archaeology; it presented huge gaps, and these our site seemed likely to fill. A mound that had originated far back in Chalcolithic times, if not in the Late

⁵ We are using the term Mesopotamia in the sense of Transpotamia as well.

Neolithic period, and had grown steadily through the ensuing eras until it witnessed the beginning of the second millennium, was obviously a source of invaluable information. The connected cultural history which it promised to furnish would guide us through many dark centuries. Best of all, here was an excellent opportunity to obtain for once a clear stratification of the civilizations which specialized in the painted pottery of the so-called Susa I type.⁶ For it was evident from the surface finds that the lower stages of Gawra contained numerous strata with analogues of the Susa fabrics, which would enable the excavator to establish the vital sequences of shapes and of decorative elements. In short, it was clear that Gawra should be dug as soon as possible.

Physical conditions were ideal for excavations. The comparative narrowness of the mound would make it easy to dig layer by layer, instead of in sections, assuring thus clear stratigraphic sequences. The prehistoric remains would not have to be recovered from deep and cumbersome pits, as must be the case with extensive ruins such as those of Nineveh or Ur;⁷ at Gawra they were easily accessible above ground. Lastly, there were several villages in the neighborhood capable of furnishing the maximum number of workmen required. Fadhliliyah, with its ample water supply, was convenient for headquarters, and Mosul with its administrative facilities, its banks, and its postal and telegraphic services, was within easy reach.

All these calculations were made not without a sense of suppressed excitement. It was perhaps natural to be carried away, at the end of six months of rather strenuous surveying, by attractive prospects of actual excavations. But the means for carrying out such an undertaking were not in sight. One had to hope that a sponsor would be found before long who would be so impressed by the scientific promise of Gawra as to disregard its presumably poor yield of museum objects; it would be too much to expect display material from a mound of such great antiquity. The institutions that financed my survey could not, as I knew, commit themselves at the time to a more ambitious archaeological undertaking.

⁶ The stimulating effect of Frankfort's *Studies in Early Pottery of the Near East I* (London 1924), which added greatly to my interest in this survey, is herewith gratefully acknowledged.

⁷ The prehistoric sondages at Ur, Warka and Nineveh had not yet been started at the time.

It remained to follow up the surface examination of the site with the usual inquiries in the nearest village. The ground, I was told, belonged to the venerable Ismail Beg el-Jalili, a member of one of the oldest families of Mosul. My informants went on to say that Gawra was a very poor place for *antiquas*. An Englishman had dug there many years ago, but without any success. I suspected that they had Layard in mind, but did not connect the reference with any of Layard's statements; the mound is not mentioned in his writings by name, and it was not therefore until several months later that I was able to identify the passage which I have cited above. At all events, I was not worried by the villagers' lack of faith in Gawra. Upon my return to Mosul I called on Ismail Beg and explained my interest in the site. With the generosity of a true nobleman he promptly placed the tell at my disposal. The Beg and his son, Dr. S. Jalili, have since proved very helpful to us on a number of occasions.

The report about Gawra which I sent to the officers of the American Schools and the President of the Dropsie College resulted in the appropriation of five hundred dollars for trial excavations. The amount was small, but it represented all that could be spared for the purpose. As it turned out, these financial resources were quite ample to bear out all the predictions about the value of the mound. They enabled us to undertake a small dig, lasting 15 working days (October 9-27, 1927) with an average force of sixty men. The staff included Mr. E. Wilenski, the architect of the Nuzi expedition, loaned to us for the brief period by Dr. Chiera, who also assigned to us his young son, William, as recorder. Our quarters were installed in an old storage room, holes in the walls serving as windows. The laborers were all new to archaeological work. But whatever the working conditions, the results of our preliminary dig proved highly gratifying. We ran a trench, five metres wide, from the base of the southeast slope to the top of the mound. On striking a massive stone wall that crossed our trench at right angles, about two-thirds of the way up the slope, we followed it and obtained thus another trench which combined with the first to form a huge cross.⁸ Our finds proved beyond any doubt that Gawra contained the remains of three main civilizations. The earliest strata represented a series of occupations by the users of the prehistoric painted pottery; the middle layers were still too early for any extensive use of metals, hence evidently Chalcolithic; with the upper third of the site we as-

⁸ See Frontispiece.

cended to the Early Copper age. In addition to furnishing these valuable chronological indications — one cannot expect more reliable stratigraphic data from trial trenches — the various levels proved, quite unexpectedly, to be rich in objects of great importance. The whole dig was later reported in a monograph entitled *Preliminary Excavations at Tepe Gawra*.⁹

More than three years were to elapse before work on Gawra could be resumed. In the spring of 1930 the American Schools of Oriental Research, which had received in the meantime a generous grant from the Rockefeller Foundation, organized an expedition to Northern Mesopotamia in connection with the Museum of the University of Pennsylvania. The mound chosen for excavations was Tell Billa, near Bashiqa, which I had surveyed prior to my inspection of Tepe Gawra. While stationed in Bashiqa, I made several trips to Gawra in the company of Mr. Howard S. Levy, a Governor of the Dropsie College, who was a volunteer member of our Billa staff. Following his return to Philadelphia, Mr. Levy helped materially in procuring additional funds for the excavation of Gawra. The University Museum and the Dropsie College joined the American Schools in this new undertaking. The second campaign at Gawra started on January 19, 1931 and continued for six weeks. Mr. A. H. Detweiler acted as architect and surveyor, and Dr. A. Saarisalo, of the University of Helsinki, assisted the writer in directing the field work. During this brief season we had to confine our activities to the southwest side of the mound so as not to interfere with plow-work at the northern base. The original plan of excavating by entire layers had thus to be discarded for the time being. Instead, another trial trench was opened up on the south slope, while at the top only the northeast portions of the several layers could be removed. In this manner, Str. VI was reached towards the end of the season. During the campaign of 1931/32, which lasted from October 12 till March 15, we were no longer handicapped by any restrictions. The remainder of the mound was brought down to Str. VI, following which we proceeded to excavate Strata VII and VIII in accordance with the original plan. The field work was supervised this time by Mr. Charles Bache, Dr. Cyrus Gordon, and the writer. Mr. Paul Beidler did the architec-

⁹ Cf. *AASOR*. IX, pp. 17-94. Attention should be called to the fact that the designations *Gawra I*, *II*, and *III* used in that report refer to cultural periods and not to levels, as several writers seem to have concluded. It was stated explicitly that each period comprised a series of individual strata. For subsequent literature on the subject cf. *BASOR*. 42 ff., and the *Smithsonian Report* for 1933, pp. 415-427.

tural work, Miss Dorothy Cross was in charge of the cataloguing, Miss M. R. Warren attended to the preservation of the antiquities, Mr. Boris Mintzker took care of the drawings, and Mr. John Tobler was the photographer. The same staff worked also at Tell Billa.

The present book deals with the results of these three campaigns. Spread over five years, they represent no more than eight working months. Two additional campaigns have been completed in the meantime under the direction of Mr. Charles Bache. They will be described in a future volume.

In the preparation of this account the writer has enjoyed the collaboration of several members of the staff of the third campaign. Miss Cross has contributed the descriptive chapter on the pottery. While in charge of the registration of objects from Gawra and Billa, she paid particular attention to the development of ceramic shapes and to the interrelationship of the later wares of Gawra and those from the early strata of Billa. She has also furnished many of the pottery drawings and has checked all the others. The arrangement of the pottery plates is entirely her own and has my full approval.

Mr. Beidler is responsible for the final architectural plans of all three campaigns. He prepared those of the third season and correlated them with the drawings of the two previous architects. I have been able to incorporate in the general account of the buildings some of Mr. Beidler's field notes. They will be given in quotation marks with the initials P. B. identifying the contributor in each instance. To Mr. Bache I am indebted for certain architectural data which came to light while the fourth campaign was in progress. These additions will be similarly indicated in the text.¹⁰

A word of explanation is here in place as regards the designation of the squares on the map of the site. The original trial trench was divided into squares of five metres, which were marked A-B, and thus on, beginning at the base of the mound; larger squares would not have been practical for our purposes. Owing to the fact that our funds were limited, we could not wait till the mound was properly surveyed, but had to proceed without delay. In the course of that brief season Mr. Wilenski somehow found the necessary time to produce a contour map, which was subsequently published with the account of that dig. But the architect had been compelled to work with inadequate instruments,

¹⁰ I also wish to acknowledge the assistance of Mr. Henry Davis, III, in the preparation of drawings and of Mr. Reuben Goldberg in taking additional photographs.

and on that account his results could not be used as the basis of a final topographical map. Eventually the contours were checked and found correct; meanwhile, however, the first report had been published with the original trench designations. In the present work it was deemed best not to break away entirely from the previous publication. The new map is divided into squares of ten metres each, but the key letters have been left in the same positions as on the old map. In other words, the distance A-C, or the like, will be found to correspond in both cases. To obtain the larger areas of the present map every alternate letter, such as B, D, etc., has been omitted. The capital letters mark the sides of the squares from southeast to northwest; the other sides are now indicated by ordinary numerals. Thus the area A-A of the trial trench falls within the Square A 7 of the new map, C-C will be located in C 7, and so on. By this method a connection has been preserved with the older publication without, of course, any sacrifice of accuracy. The present map covers the mound down to its base. If the adjoining areas ever come to be excavated, the map can be easily extended by employing the unused numerals or by adding such symbols as AA, CC, as the occasion may require. In this manner our present designations have a direct relation to the history of excavations at Gawra.

Concerning the arrangement of this volume the following remarks may be in order. Following this introduction, which has dealt with the location and discovery of the site and the history of its excavation to date, the material will be presented in two main parts dealing respectively with the finds and their interpretation. This appears to me to be the best way of separating the account of facts and sequences from views on contacts and consequences, and of making thus a clear distinction between what is reasonably certain and what is often necessarily tentative. In this way it was possible to let the remains stand out by themselves without being obscured unduly by foreign parallels. Although the recapitulatory and comparative discussions necessitate some repetition, the groupings in the second part of the book usually involve a shift in emphasis.

To return to the first part, it consists of chapters on Architecture, Pottery, Terracottas, Stone Work, Copper Objects, Bone Objects, Seals and Seal Impressions, Beads and Miscellaneous Ornaments, and Burials. The grouping is to a certain extent inconsistent, in that some of the finds are described under their respective materials while others are listed according to function. A consistently functional classification

would have called for too many separate categories and not a few cross-references. Moreover, it would have made it difficult to trace from stratum to stratum the developments and changes in the various industries under discussion; this is true particularly of the last Chalcolithic and early Copper levels. The final result is a compromise which, I hope, will prove practical. A complete catalogue of the illustrated objects precedes the Plates.¹¹

Lastly, the present volume is primarily an account of Gawra *I-VIII*, since these strata were removed under my supervision while I was on leave of absence from teaching duties at the University of Pennsylvania. The trial-trench material that antedates Gawra *VIII* is given without positive stratigraphic ascriptions, since in most of the cases in question the precise stratum can be ascertained only through further excavation.

¹¹ For the sake of convenience the Introduction and the Catalogue have also been designated, by Roman numerals (I and IV), the Account of the Finds thus becoming Part II and the section on Comparisons and Results constituting Part III.

II. ACCOUNT OF THE FINDS

1. ARCHITECTURAL REMAINS

THE STRATIGRAPHIC record of a given site should begin logically with the earliest layer and continue with a summary of the successive occupational changes based on the archaeological contents of each stratum. Such an arrangement would allow the material to appear in the correct historical order. Actually, however, this procedure is not always practical. Difficulties arise in instances where excavation has not reached virgin soil. In a mound that is uncovered only in part the strata are numbered necessarily from the top down. Should the account of material remains also follow the order of excavation? If so, will not the typological development tend to become obscured?

In a study of Gawra these problems of method cannot be avoided. We have seen that in the course of the first three campaigns, which are the subject of the present volume, approximately only one-half of Gawra has been removed, yielding eight strata and several sublayers. We cannot begin our report of the architectural remains with the last substratum of Gawra *VIII* because we know from the results of the fourth season that the underlying stratum was architecturally related. In other words, in discussing the buildings of Gawra we are compelled to adhere to the order of excavation, starting with the topmost layer and descending from there to the earlier strata. On the other hand, there is no valid reason why the historical order cannot be restored in the subsequent chapters, in which the main types of objects are to be considered. The architectural record will thus be the only one to be presented in an inverted sequence. But even here the proper perspective will be maintained in part if we preface the detailed stratigraphic account with a few remarks setting forth the conditions under which the layers in question had grown up.

At the beginning of the first phase of Gawra *VIII* the available area at the top of the mound, then approximately thirteen metres high, measured about eighty metres by fifty. The settlement was rebuilt twice with extensive alterations, few structures retaining their original levels throughout the duration of the stratum. Eventually Gawra *VIII* was destroyed by fire. Of its immediate successor, Gawra *VII*, there are but scanty building remains, since the inhabitants of Gawra *VI* had leveled

the ground thoroughly prior to establishing their own settlement. Notwithstanding these activities, the average level of the mound was now more than three metres above the original level of Str. *VIII*. To counteract the inevitable shrinkage of the flat area at the top, the upper slopes were terraced on the southeast side so that the total space occupied by Str. *VI* came to exceed slightly that of Str. *VIII*. The terrace was a very sensible innovation at the time; but by cutting down the normal edge it simply hastened the diminution of the surface. Upon the destruction of Str. *VI* this loss was never to be restored. The builders of Strata *V* and *IV* had thus at their disposal a considerably reduced area, ovoid in shape. It proved sufficient in both instances to support small shrines, but not much more. It was indeed unfortunate that the usefulness of the site diminished with each successive level, while its position grew constantly more commanding. As an alternative to the abandonment of the mound very little depth was now allowed between the layers. Whereas the debris of Str. *VIII* had been left undisturbed to a height of three metres, the distance between Str. *III* and Str. *II* was less than one metre, and between Str. *II* and Str. *I* only about one-half of that. But even these measures were soon to prove inadequate. Further building would have required the removal of the underlying foundations, and that was apparently deemed to be uneconomical.

We are now prepared to consider in detail the individual strata, beginning with the limited layers at the top. After what has been said above, we shall not expect much enlightenment from Gawra *I-III*, but shall trust that information will be more plentiful as we get down lower. In this respect there need be no fear of disappointment.

a. Stratum I (Plate II)

Of this originally insignificant settlement few remains were extant. After the site had been abandoned the walls deteriorated gradually, the stones rolling down to the base of the mound. Some of them were doubtless carried away by the neighboring villagers, an unfortunate practice that is common to this day. Subsequently, a few grave diggers, who saw in the lofty mound a protected burial ground for their dead, all but completed the destruction of the layer. As a result, only a few fragmentary walls have been recovered; the one that was least damaged retained the height of 40 cm.

The entrance was from the east, through a gateway 4.1 m. wide, flanked on either side by a wall which we found preserved to a length

of more than 5 m.; the width was about 1 m. Two stone door sockets were found in place, one by each wall (Square M 6). To the north of the gateway was a pavement equipped with an irregular drain and with an oven built in directly against the wall. The main structure evidently occupied Squares M 7-M 8, but the remains were too scanty to afford an indication of its original character.

b. Stratum II (Plate III)

The building remains of this stratum are only a little more extensive than those of *Gawra I*. The walls are still low, since their foundations alone have been preserved, consisting of three rows of rough stones; the upper courses of mud brick were removed by the builders of the level above. The present plan is disconnected, though the outlines of a number of rooms are quite clear. The main structure again centered in Squares M 7-M 8. The foundations were solid and well built, and the rooms were regular; some of them had stone floors. The principal chamber (R. 201, Square M 8) had two entrances, one from the southeast and the other from the southwest. The corners were oriented towards the points of the compass. A minor building stood near the northeast edge of the mound.

c. Stratum III (Plate IV)

The available surface at the top is at this level considerably broader than it was in the case of the two upper levels; the occupied area extends now from K to O and from 5 to 9. Moreover, the occupational debris of this stratum was allowed to remain to a depth of about 1 m. Consequently we recovered here not only the stone foundations of buildings, but here and there also remains of mud brick walls, enough to indicate that brick walls upon foundations of stone were the norm at this period and, no doubt, also in the two later strata.

A glance at the plan of *Gawra III* will suffice to show that its builders had no eye for regularity or symmetry. In contrast to the neatness of the buildings of *Str. II*, there is at present no attempt at definite orientation, and the walls follow no regular plan. The whole gives the impression of architectural lawlessness. The foundations vary in width, and even the bricks are not of uniform size.

The principal building is found this time in the northeast section of the mound, corresponding to the locus numbers 5 and 6. The walls

are 1 m. to 1.5 m. wide. In the small north courtyard (Square 06) there was a shallow basin, 90 cm. by 1.9 m., made of mud plaster 3 cm. thick, constructed over a stone pavement. Such pavements were probably to be found in all the rooms and courtyards of this stratum; none however, was preserved complete.

In the center of the level there was a frailer structure of which only a few rooms could be traced. The long stone drain in Squares M-O: 8 is notable for its comparatively careful construction in a stratum otherwise characterized by slipshod building methods.

d. Stratum IV (Plates V, XIX, XX. a)

With the present level we find ourselves on surer ground than has been our experience hitherto. Not only are the rooms massive and well constructed, but there is furthermore no doubt as to the nature of the compound of which they formed a part. We are now unmistakably in a religious precinct. This fact is proclaimed by the plan and the equipment of the main building as well as by the nature and distribution of the accompanying finds. It will be shown later that the shrine of Gawra *IV* is in fact the continuation of an earlier religious center, that of Str. *V*.

Stone appears to have been the all but exclusive building material. It is found in the walls and in the pavements of rooms and courtyards. Except for a small podium (R. 409) there were no traces of brick in this layer. In the upper strata, it will be recalled, we had walls of mud brick resting upon foundations of stone, which consisted usually of three courses. But even the tallest surviving walls of Gawra *IV*, reaching to a height of 1.4 m., were invariably made of rough stone, and the absence of brick cannot therefore be considered accidental.

The principal structure occupied the central and northeast portions of the site. It consisted of a spacious cult chamber, open to the northwest, and an inner sanctum or cella. The outer walls were 1.3 m. in width, except for the northeast wall of the cella which had a thickness of 1.5 m. The dimensions of the cult chamber were 12.8 m. by 10.7 m., those of the cella 7.9 m. by 6.7 m. The larger room was subdivided by means of stone partitions into three parts (Rs. 405-7). Against the southwest partition, which formed a niche 2.6 m. wide, was built an altar consisting of two flat stones 80 cm. square and 20 cm. high, laid side by side, and of another flat stone 50 cm. square and 36 cm. high, laid on top. In front of the altar was a rectangular podium of rough

stones, 1.5 m. by 1.75 m., and 57 cm. high. In the same section of the cult chamber, against the southeast partition, was a ledge or wall-bench of large stones, 3.3 m. long, 60 cm. high, and 45 cm. wide.

The northeast wall of the cult chamber was broken up in the center by three steps of dressed stone which led to the massively built cella (R. 409).¹ Near the center of the cella was a small podium of burnt brick upon which rested an incense burner (Pls. XXX and LXXIV, 205). Even more significant than the presence of the censer on the podium was the discovery of a clay lamp and of fifteen jars varying in size, each with a lid of pottery or of stone, arrayed against the northwest and southwest walls, but all set upright under the floor of the room. It is certain that this peculiar arrangement was the work of the devotees of the shrine of Str. IV, and not of the people of the underlying settlement. For the floor of the next layer was considerably lower than the level at which the jars were found; so were also the objects of that stratum. Moreover, the occupational debris of Str. V was covered in this section by charred remains of reed-and-clay roofing, which lay many cm. deeper than the level of the vessels under discussion. Finally, the jars had not been affected by the laying of the heavy stone floor above, although some were subsequently pressed out of shape by the gradual settling of the floor. It is clear therefore that the pottery had been placed where it was by the builders of the cella, the act having necessarily a religious significance. Even without this confirmation, however, the architectural features of the building would suffice to establish its religious character.

The adjoining structures require but little comment. R. 408 abutted on the northwest wall of the cella and was reached from the southwest. This room was deeper than the rest of the shrine and it served as an ablution chamber. The water supply was obtained through a conduit that sloped into the room from the southwest and then sloped out again under the northwest wall. By means of a later wall, 5.5 m. long, which framed the entrance from the northwest, this chamber was enclosed within the shrine compound.

Touching upon the southwest wall of the cult chamber was a small rectangular room (411) that had massive walls and a floor of heavy

¹ Although the steps ascend to the cella, this room is actually below the level of the cult chamber. The steps led evidently to a wooden gallery which communicated with the cella by means of a wooden staircase. But owing to the complete destruction of the shrine by fire no confirmation of this hypothesis could be obtained.

blocks of rough stone. It was doorless, the entrance being effected apparently through an opening in the upper part of one of the walls or, perhaps, at the top. We shall be confronted with similar rooms in Str. *VIII*. They were used evidently for storage purposes, the difficulty of access adding to the protection of the objects kept within.

To the west of the storage room and separated from the cult chamber by a narrow courtyard was a larger rectangular room (401) with its entrance from the northwest. Against the northeast wall was another small podium of rough stone, measuring 1.3 m. by 1 m.; it was 30 cm. high. We have here probably a small cult place dedicated to a subsidiary deity.

For the time being we must refrain from associating each stratum with some definite historical period, being content with the stratigraphic indications as to relative chronology. The historical position of our levels can be discussed only after the various types of finds have been described in detail in the following chapters. It may be noted in passing, however, that in Gawra *IV* we find, for the first time in our downward course through the layers, implements of flint and obsidian, late echoes of a rather remote Chalcolithic age. We may anticipate here the conclusions of a subsequent section of this book by stating that the second millennium has now been passed and that we are at present on the borderline between the Middle and the Early Copper periods.

The end of Gawra *IV* came, it would seem, swiftly and without warning. A layer of ashes, varying in thickness, testified to a thorough burning down of the site. Many of the inhabitants must have perished in the conflagration, for their charred bones were found strewn over the floors of the shrine and the pavements of the adjoining courtyards. Escape was evidently impossible, owing perhaps to the presence of the enemy at the foot of the mound. The activities of later builders, added to the effects of the fire, conspired to disturb the human remains beyond any possibility of closer identification.

e. *Stratum V* (Plate VI)

On comparing the plan of the present level with that of its immediate successor one may at first be surprised to note that the lower stratum occupied a narrower area; ordinarily the decrease in habitable surface follows the rise of the mound. The built up oval at the level of Gawra *V* was 50 m. in length, but only 20 m. wide. The reason for this unusual circumstance will be found in the underlying stratum. It

has already been noted that the people of Gawra *VI* had made a terrace on the southeast slope, thus obtaining additional building ground. Following the collapse of that settlement, however, the terrace with its soft filling of debris was merely a hindrance to prospective builders; they were thus forced to avoid the treacherous edges. It required the added ruins of an intermediate settlement before Gawra *IV* could reclaim part of the lost ground.

Surprising is also the lack of consistency in the choice of building material. Some rooms have walls of mud brick set on stone foundations usually about 30 cm. high. The construction is in these cases similar to that which we have noticed in Str. *III*, and which will be found prevalent in Str. *VI*. Other rooms, however, especially the prominent structure numbered 517 and the group of which R 513 is the center (Squares M-O: 9-10), seem to have had walls built entirely of rough stone. Some sections of the walls of R. 517 survived to a height of 90 cm., far above the normal elevation of stone foundations. It is thus difficult to escape the conclusion that Gawra *V* presented a combination of two distinct building methods.

In its all-stone construction R. 517 corresponds to the structures of the following stratum. Upon closer examination the connection will prove a good deal more intimate. A comparison of the plans of the two levels will disclose the interesting fact that R. 409, the cella of the Gawra *IV* shrine, was built directly over the northeast half of R. 517, the walls of the upper room being aligned with those of the lower one. A further study will show that the lower structure was the principal part of a shrine, that of Gawra *V*, establishing thus a traditional location for the super-imposed shrine of the succeeding stratum.

R. 517 was of excellent construction and had the respectable dimensions of 9.5 m. by 5 m. The walls had a regular width of 1.5 m. The entrance was from the northwest, near the west corner of the room; it was 1.5 m. wide. To reach the door, which was hinged towards the inside as may be seen from the position of the socket, one had to descend two stone steps. The floor was covered with a hard cement of grey sand, 2 cm. in thickness. In the east corner of the room was a raised platform 50 cm. high, 2.5 m. long, and 1 m. wide. It was made of reddish cement, mixed from the so-called Amadiyeh sand, which is obtainable in the hills between the towns of Dohuk and Amadiyeh. Near the platform was a niche cut in the northeast wall; it rose from a height of 50 cm. above the floor and was covered with a thin layer of mud plaster.

This section of the room obviously represented the holy of holies, which had not been separated as yet from the cult chamber as was the corresponding cella of the Gawra IV shrine.

The roof was made of reeds and clay, as was shown by the numerous fragments of hardened mud with distinct reed impressions, found near the floor level. The scanty finds of the present stratum lay of course under the remains of the roofing. Among them (at a level of 17.45 m.) was a well preserved cooking pot. Considerably above this level, but under the floor of R. 409, was found the assortment of ceremonial vessels to which reference was made above.

The thick layer of ashes found in the shrine indicated that Gawra V had met with an end similar to that which was to befall the next stratum. The paucity of finds in this level points to a thorough sacking of the compound prior to its destruction by fire. The objects recovered from under the ashes will be discussed in the subsequent chapters under their proper stratigraphic subdivisions.

The remaining rooms of this small settlement call for no further comment. Attention need be directed only to the small cistern in Square 05 and the oven in R. 510. It goes without saying that the shrine chamber was by far the most prominent structure of the stratum, the remaining rooms and room-complexes being merely ancillary edifices.

f. Stratum VI (Plates VII and VIII. a)

On descending to the level of this settlement we find ourselves for the first time in an area spacious enough to support a moderately extensive occupation,² instead of the small religious compounds that we have been encountering hitherto. The occupied surface of the mound measured here about 70 m. by 60 m. The ground was not level throughout. The northwest section, built over the steepest slope of the site, was more elevated than the rest. There was a gentle downward grade to the southwest and another one towards the southeast, the direction from which the place was easiest of access. It was doubtless owing to this latter circumstance that a terrace was cut in this section (G-J: 7-9),

² That contemporary settlements existed also, as was to be expected, at the foot of the mound was proved in the course of a brief dig on a low rocky hill a few hundred yards to the northwest of Gawra, known as *Khirbet Na'amân*. Differences with the owners of the ground cut down this work to a day and a half. Enough was learned however, to show that the area formed part of Gawra VI. The few finds from this section have been indicated in the Catalogue as coming from the "Khirbeh."

about two metres below the edge of the mound. Upon it was constructed (probably at a somewhat later period than the main settlement) a row of narrow rooms with their entrances towards the main buildings and their back walls against the edge of the tell, presenting thus a formidable barrier to the enemy who would be most likely to attack from this part of the plain below. Parallel with these rooms, but still another metre lower, there came up further walls which appear to have belonged to the outer lines of defense. Although they were found at the same level as the last substratum of *Gawra VIII* (12 m.), there cannot be the least doubt that these structures actually formed part of Str. *VI*. They disclosed the stone construction characteristic of the foundations of the present stratum, whereas the buildings of Str. *VIII* were entirely of brick. Moreover, the accompanying finds were typical of *Gawra VI*. Similar walls were discovered near the west corner of the site (M-O: 10-11). It is not improbable that the whole of the settlement was thus encircled originally; the place was evidently well fortified.

At this point we may insert the note of Mr. Charles Bache on the structural remains of Str. *VI* which were found by him at a still lower level during the fourth campaign. He writes:

Lying at the extreme eastern edge of Str. *IX*, these remains were found during the excavation of that level, but obviously have no place in discussions of Str. *IX*. Comparison of the walls shown here (Pl. VIII. *a*) with the full plan of Str. *VI* shows immediately how well they fit in with the buildings of *VI*.

Typical pottery of Str. *VI* was found within the foundations here shown.

The well must have been dug at the time of the building of the walls, and was not filled in until the times of Str. *IV* at the earliest, since a great amount of the pottery of that stratum was found in the debris inside the well.

At the close of the campaign of 1932-1933 the bottom of the well had not been reached, although we had cleared it to a depth of 22.00 metres below the top (8.57 m. below our 00.00, near the plain level). It is lined with heavy stones throughout its depth to this point. [C. B.]

It will be demonstrated later that *Gawra VI* goes back to the Early Copper period, i. e., the beginning of the third millennium. The stratum was actually a composite one, having undergone several rebuilding operations, which must have extended over a considerable period of time. But with the succeeding occupations it had one outstanding feature in common: the method of construction is essentially the same

as in the later levels. As has just been indicated, the foundations are invariably of stone, usually 30-40 cm. high, upon which are erected walls of mud brick. In none of the first six strata was brick work used exclusively, without some courses of rough stone. The bricks of the present level were not regular in size, but the most common dimensions were 42 by 20 by 10 cm. The average width of the walls was 70 cm.; some of them survived to a height of cir. 2 m., though in the majority of instances the foundations alone could be recovered. It was not possible, therefore to determine in each case the location of the doorways.

The settlement may best be characterized as extraordinarily compact. The rooms are as a rule small and the buildings are close together. They are architecturally unimpressive, lacking symmetry and regularity. It is evident that they had not been designed for comfort or for esthetic appeal. Nevertheless, the contemporary builders were not altogether devoid of ability; their work on the individual structures may have been indifferent or poor, but the plan of the township as a whole is admirable in many respects.

The central portion of the site was occupied by a large and roughly rectangular courtyard, 28 m. by 17 m. The buildings were grouped around it and extended from there to the edge of the site, which thus became automatically a formidable fortification. All the other details of the town plan were calculated to enhance the safety of the settlement. There were two town gates, one in the south corner which communicated directly with the central court and was flanked by two long walls rounded at the outside, and the other in the east. To the north of this latter gate was a one-room structure (R. 607) with walls 85 cm. wide, built of heavy blocks of stone. These solid walls were probably the base of a tall watch tower which commanded the plain to the southeast. The streets, which radiated from the central court, were long and narrow. One of them (along Locus 8) led directly to the terrace in the southeast, crossing at right angles a somewhat wider street that communicated with the southern gate. All in all, adequate provision had been made for circulation, with a view, however, to economy of space and to protection in case of attack.

Like many of the rooms, the streets were paved with small flat stones. The pavements were broken up in the middle by the drainage system of the township, the drains consisting of two parallel rows of flat stones set on end 20 cm. apart, with flat lintel stones on top. One of the drains passed through a small courtyard (J 9) east of the southern gate, close by a cistern 1.7 m. in diameter.

There is little to be said concerning the individual buildings. If massive construction be an indication of relative importance, the edifice in J 7 enjoyed particular prominence. Its southeast wall was so solidly built that we took it to be the retaining wall of the citadel when its first section was discovered in our original trial trench. The best finds of the stratum were concentrated in this part of the settlement, especially in Rooms 650 (seals, beads, copper objects), 645-46 (seals), 621 (copper objects), 649 (beads, seals, and copper objects), and 620 (terracotta chariot and couch). In M 5 (R. 654) there was a crude hearth built of rough stones. As Mr. Beidler reports, "a semi-circular row of stones enclosed an ash pit in front of the hearth, and the room was paved with large flat stones. Outside the room were found two cylindrical ovens set in the floor. They consisted of three concentric cylinders of hard clay, each being 2 cm. in thickness and fired to extreme hardness. [P. B.] "

Gawra *VI* was destroyed by fire, like its several successors. But the inhabitants were not trapped in the burning buildings, as was the case with Gawra *IV*. Their flight must have been precipitate, however, for they left behind them many valuables. A considerable number of small objects of importance was found among the debris, a remarkable circumstance when it is realized that all of them came from occupational deposits and not from tombs, where their presence would not have been unusual.

g. Stratum VII (Plate VIII. b)

There are practically no building remains in this level save for a few fragmentary walls and half a dozen rooms in the north portion of the mound. In this respect the stratum is very insignificant. It is only the contemporary finds that impart to it a distinct identity. At a level approximately 60 cm. below that of Str. *VI* there were large quantities of pottery, different from the wares of the stratum above and marked off upon the whole from the fabrics of Str. *VIII*. The break with Str. *VI* is unmistakable. The walls are without stone foundations, being constructed entirely of brick of dark brown mud, poorly dried in the sun. Apart from its distinctive pottery, the present level is poor in cylinder seals, which are so frequent in Str. *VI*, but shows a fondness for the stamp seal, a type absent from the succeeding stratum. There is also a noticeable decrease in the number of copper objects, with a proportional increase in flints and obsidians. In short, we have left the

Copper age and are now in the Chalcolithic period, to which Str. *VIII* will also prove to belong. But there is no danger whatever of confusing the two strata. The floor levels of the earlier stratum are about two metres lower and, while the building material is the same in both instances, the beautifully designed structures of Str. *VIII* contrast sharply with the flimsy remains of Str. *VII*.

The people of this stratum did their building only in one limited portion of the mound. It is certain that the east corner did not contain any contemporary buildings, for the edifices of Str. *VI* rested directly over the ruins of Str. *VIII*. In fact, the northeast foundations of R. 607 broke through the southeast wall of R. 802,³ a room which had been originally part of the Eastern Temple, as will be shown presently. The builders of Str. *VI* went about their work in a thorough manner, and this fact coupled with the unpretentious character of Str. *VII* at its best will account for the circumstance that so little of this stratum was found extant.

b. Stratum VIII (Plates IX-XVI; XXI-XXV)

This is by far the most significant and noteworthy occupation that Gawra has yielded thus far. It is extensive and well preserved, notwithstanding the numerous levels that came to be superimposed. The settlement presents a series of unusual architectural features, some of which are remarkable for the fact that this is the earliest time in which they are known to appear anywhere. We shall see later on that Gawra *VIII* must be assigned to a period not later than the end of the fourth millennium, to use the conservative low chronology (cf. pp. 182-83).

Very striking is the uniform excellence of nearly all architectural details. The various structures display individuality of design, but the whole settlement follows a preconceived plan of the site. Strictly speaking, Str. *VIII* offers a succession of settlements, for it consists of three distinct sublayers representing three successive though inter-connected periods. That they were all phases of the same civilization is attested by the fact that some of the edifices continue in use throughout the three periods, while others are shared by the two later substrata; still others come up only in the final phase, over the ruins of earlier buildings. The history of the occupation as a whole is thus intricately interwoven. The buildings that have survived the successive changes and alterations bear witness to the underlying unity of Gawra *VIII*. On the other hand, the

³ Cf. *AASOR*. IX. Fig. 14.

repeated modifications in the appearance of the township reflect the influence of changing social, economic and, towards the end, also political conditions. Thus the continuance of a single civilization through three individual phases, each with a character of its own without being isolated culturally, affords us an unheeded for insight into that many architecturally delimited generations of the Chalcolithic age; one could scarcely expect more light from the otherwise inarticulate prehistoric times.

This inner unity of the subdivisions of Str. *VIII* does not preclude a further relationship of the level as a whole with the immediately preceding layers. In reality, discoveries made at Gawra in course of the fourth campaign, as reported by Mr. Bache, have proved that Strata *IX* and *X* were closely related from an architectural standpoint to Str. *VIII*. They are classed separately because their structures were not reused in Str. *VIII*, as happened in the case of the substrata. When the remains of those underlying layers have been published in a future volume, it will be interesting to trace the gradual progress that led to the finished forms of the present occupation. In the meantime we are grateful for the information that Gawra *VIII* has its roots deeper in the mound. Mr. Bache has furnished me also with certain additional notes that could be made only after the walls of our stratum had been taken down. They are incorporated in the following description, properly identified and quoted verbatim.

To return to Str. *VIII*, the sublevels are marked *A*, *B* and *C*, beginning with the topmost one. Of these, *VIII-A* alone was preserved in approximately its original outlines, undisturbed by peacetime enterprises of later builders. The settlement had contained tall structures some of which were vaulted. When it burned down, in a fire that almost turned the sun-dried bricks into baked ones, imparting to them a warm crimson tint, the upper brick courses collapsed, filling the rooms to a considerable height. Rather than dig out the hard and often fused masses, subsequent occupants of the site allowed them to remain where they had fallen. As a result, the level of the mound rose more than two metres with this one substratum, an interstratigraphic depth that was not to be duplicated at Gawra. The manner in which this occupation was destroyed became thus the means of its ultimate preservation, the walls remaining comparatively tall and the floor finds protected by the massed bricks above. But substrata *B* and *C* were not terminated in the same manner; they suffered nothing more serious than extensive altera-

tions at the hands of the people who had continued to inhabit the remodelled site. Rebuilding did not bring with it layers of protective debris. These operations left us, however, with distorted and incomplete pictures of *VIII-B* and *C*, though enough has survived to show the principal features of the two sublevels. In our account of the stratum we shall begin with the oldest phase, *C*, and carry the description through the intermediate *B* to the culmination and ultimate destruction of the settlement in *VIII-A*.

VIII-C (Plate XI). The extant building remains of this sublevel fall into four distinct groups. In the east and west sections of the site we have isolated structures, while the occupied areas in the center and in the north consist of several contiguous building units. We distinguish, therefore, the eastern and the western buildings, and the central and northern compounds respectively. The corners are oriented consistently to the cardinal points of the compass. All buildings are constructed of sun-dried brick, occurring in two sizes: a whole brick measuring 11 by 22 by 44 cm., and a half brick measuring 11 by 11 by 44 cm., the latter type being employed for transverse bonding. The joints between the bricks vary from 1 cm. to 4 cm., and the walls are covered with a coating of mud plaster that averages 1 cm. in thickness. There were no stone foundations, but the lowest brick course was laid immediately below the surface of the floor. "The floors were first leveled, as a rule, following which a thin covering of mud, from 2 cm. to 4 cm. in thickness, was applied, to be smoothed and left to solidify in the sun. The interior doors had brick sills 11 cm. high, running flush with the walls. The interior walls were generally two and one-half bricks in width, and the exterior walls were four bricks wide. [P. B.] "

The characteristic features of this occupation are a double-crenulated⁴ niche, 3.2 m. broad at the outside, sometimes pierced by a small window, and an entrance porch or *liwān*,⁵ inclosed on three sides. The

⁴ In using the term "crenelation" in this rather unorthodox sense (cf. e. g., Pl. XXII. b) I have yielded to the persuasive arguments of one of our architects. Archaeology has often specialized architectural terms for its own peculiar uses. Such terms as "cella" or "podium" are, strictly speaking, inexactly employed by archaeologists, but prolonged usage appears to have rendered them legitimate in these new surroundings. "Crenelation" may prove to be equally versatile. It must be admitted that "double-" and "triple-recessed" niches do not sound as elegant as these decorative elements actually are. A "single recess" is positively barbarous by the side of "crenel." I have deemed it advisable, nevertheless, to express here my half-hearted protest against this innovation.

⁵ For *liwān*-architecture (I based this term, independently, on modern local usage)

crenels of the niches are one brick in width and length. We have evidence that two of the crenelated buildings of *VIII-C* were used as temples. There is, therefore, a strong probability, reasonable even without this argument from analogy, that all the contemporary crenelated structures had a religious character. The buildings that reveal themselves definitely as temples are those in the eastern and western sections. The crenelated structure (centering in O 8) that forms part of the central compound may be named the Central Shrine. In the northern compound we have a room (808) which, although not crenelated on the outside, contained two inside niches and a platform in the center similar to that of the Eastern Temple; we obtain thus a Northern Shrine. It follows, then, that the level contained originally at least four religious edifices, each doubtless dedicated to a different deity. Together they formed an impressive acropolis antedating the historical dynasties of Sumer and of Egypt.

Let us first consider the Western Temple (cf. Pl. XXII. *a*). Its dimensions are 17.5 m. by 13 m. The building faces northeast, and the entrance is on the short side. We get thus the "long-room" arrangement that is destined to become traditional in Assyria.⁶ From the entrance "a wide door, sheltered by a liwān, opens into a central chamber (R. 874) which communicates with four narrow rooms, two on each long side. The simplicity of the plan is a very noteworthy achievement. Symmetry is its principal characteristic. The entrance is emphasized by a deep porch; the interior doors balance each other; the long walls are decorated on the exterior by three, and the short walls by two double-crenelated niches. With the exception of four, which had interior partitions abutting against them, all of these niches may have contained windows. For the two niches in the front wall windows are established as a certainty; one of these was found in a good state of preservation. It is significant that in the southwest wall, near the western corner, there was found an infant burial, plainly a sacrificial one since it had been placed in the wall while the building was under construction. The remains of the infant lay between two flat pottery plates just large enough to enclose the body. [P. B.] "

There is one particularly puzzling problem in connection with this

cf. Oelmann, *Bonner Jahrbücher*, vol. 126. 137. But the Gawra material is considerably older than the Syrian analogues.

⁶ On the question of "broad" and "long" rooms see now V. Müller, *AJA*. XXXVI, 417.

temple. Unlike the three other sacred buildings of this period, the Western Temple failed to survive till *VIII-A*. In the following phase its entrance was blocked and in the ultimate occupation the walls were taken down to within one metre of the floor level, the portions allowed to remain were filled in, and upon this platform an entirely new set of structures was at length erected. Now since it was precisely their religious character that had saved the other shrines from a similar fate, the point may reasonably be raised as to whether we have not been begging the question in identifying the western building as a temple.⁷ The absence of the customary podium or altar might also be taken to militate against such an assumption. But these misgivings are offset by other considerations. It is generally agreed that the employment of crenelation in secular buildings is unlikely. As for the podium, the structure may have contained one originally, only to lose it in *VIII-B* when the place was no longer a sacred precinct. The results obtained during the fourth campaign at Gawra and kindly communicated to me by Mr. Bache and Mr. Muller, to whom I am indebted for the appended plan (Pl. XII), provide welcome additional light on the subject. It has been learned that Str. *IX* contained what appears to have been the model for our present building. It occupied Squares M-O: 8-7, the entrance being from the southwest. If the two structures had been built at the same time they would virtually have faced each other. The plans and the dimensions are all but identical. Now the older building shows a podium in the central chamber, opposite the main door, and the religious character of the edifice is thus definitely established. The analogy is so close that all doubts as to the nature of the *VIII-C* building under discussion must perforce disappear.

It is equally clear, however, that the Western Temple lost its original importance in course of time, or it would not have been blocked off and ultimately taken down. Had the shrine been transferred to another location? This view will scarcely commend itself as a plausible solution. Perhaps, then, some change in religious allegiance is at the root of our present difficulties; the presiding deity of this particular center may have lost, for some obscure reason, its hold on its former devotees. But it is futile to indulge in speculations of this kind. The fact remains that the finest of the Gawra *VIII* temples came to be treated as a profane structure and was ultimately destroyed, while its archi-

⁷ This identification is pressed by Dr. Andrae in a kind personal communication.

tecturally inferior contemporaries were maintained with great care and survived to the very end of this composite stratum. We are confronted here with a mystery the key to which was probably lost with the passing of the people of Gawra *VIII*, not less than five thousand years ago.

Almost directly opposite the Western Temple and facing it across a courtyard 9.5 m. wide we find an asymmetrically designed structure which we shall recognize again in *VIII-B* and *A*. It constitutes part of the central compound and, since the characteristic crenelation is present, we have named this building the Central Shrine. We know now that the open space to the southeast was occupied in the preceding stratum by a temple (Pl. XII), and a glance at the respective plans will show that the south wing of the *VIII* shrine was built over the foundations of the *IX* structure. It has been indicated, furthermore, that Str. *VIII* does not represent an entirely new cultural period, but is primarily the continuation of an established civilization after a brief break following the destruction of Str. *IX*. This particular section of the mound was therefore traditionally sacred ground to the builders of both the Western Temple and the Central Shrine. The former may be looked upon, owing to the striking similarity of the two, as the heir to the older sanctuary. The other shrine is perhaps a new departure; at all events, its plan exhibits certain noteworthy differences. To be sure, the workmanship and the exterior ornamentation are the same, and the entrance is again emphasized by a sheltering liwān (R. 835), which leads to a rectangular chamber (R. 833) measuring 7 m. by 4 m. In contrast with the Western Temple, however, the door is placed this time in one of the long walls, thus producing the "broad-room" effect. In such details building conventions had not as yet become so set as to outweigh other considerations. Though the *Langraum* predominates in Gawra *VIII*, the *Breitraum* is not avoided where this design happens to be more practical, or perhaps more in keeping with a specific tradition.

Flanking the liwān are two small and almost identical rooms (825 and 818). Their mutual resemblance is emphasized by the double-crenelated niches that adorn the front walls (cf. Pl. XXII. *b*), thus facing the courtyard and the Western Temple. "Each niche was pierced by a window 10 cm. wide and 59 cm. high, just large enough to permit the smoke of sacrificial fires to escape in addition to letting in light. Traces of fire, smoke, and ashes were clearly distinguishable in R. 818. The window sills were 86 cm. above the floor level. Some of the lintel bricks over the door of R. 818 were still in place, 1.67 m.

above the door sill. In R. 831 there was an ablution bowl of pottery set in the ground, the rim flush with the floor. The walls of these rooms were preserved to a height of nearly three metres, and were still practically perpendicular, which speaks well for their construction. [P. B.] "

Almost due east, in Squares J-K: 5-6, is the Eastern Temple, part of which was excavated in 1927. Its plan corresponds closely to that of the Western Temple. Once more we find a deep liwān sheltering the main doorway, which leads to a rectangular cult chamber (R. 802). The walls of the cult chamber are again treated with the typical crenelated niches of this period. The chamber was flanked by four narrow rooms, two on each long side. Only three of the doorways were found; the fourth had disappeared entirely. The temple witnessed all three occupations of Gawra *VIII*, but was subjected in phase *B* to considerable alterations as will be detailed below.

An important feature of the cult chamber was the platform, or "podium," laid near and parallel to the southeast wall. Not more than a small section of this platform had remained, buried under the slightly raised floor of the next sublevel. The restoration given in the plan is conjectural, based in the main on the corresponding podium of *B*.

Very significant are the infant burials discovered in the course of the 1932/33 campaign. Detailed information on this subject, which has been submitted by Mr. Bache, will be found in a later chapter together with a description of the other burials of Gawra. For the present it is sufficient to note this practice, which is encountered also in the Western Temple, as an apparently regular procedure in the building of the more important sanctuaries.

The Northern Shrine occupied Squares O-Q: 4-5. Its plan and construction differ considerably from those found in the other religious edifices of *VIII-C*. There is in the present instance no direct means of access, and the outside niches are missing. Instead, two interior niches are seen in the southwest wall of the cult chamber; they lack the usual crenelation.

The shrine was entered from the south through a small vestibule. Against the northeast wall of the vestibule was a low wall-bench of brick, broken up only by a doorway leading to the antechamber. On turning to the left we descend two steps and arrive at the wide door of the cult chamber (R. 808). It is a rectangular room measuring 8.8 m. by 4.9 m. The chief feature of this room is a large podium facing the center of the southwest wall. At a distance of 60 cm. from each corner

of this wall is a shallow niche 80 cm. wide, starting directly above the floor. "The podium is 3.5 m. long, 2 m. wide, and 22.5 cm. high, and conforms in shape to a rough representation of an anthropomorphic figure (Plates XIV, bottom, and XXV. b). Two courses of mud brick form the foundation, on which was laid a thin layer of firm, cement-like plaster of clay and sand. The edges of the podium slope to the floor in a cyma reversa curve, and the corners are all rounded.

"On leaving the cult chamber by the same door and turning left, we descend another step and come to a fine doorway on the right. This doorway was found complete with lintel bricks in place (Pl. XXIII. b) and was 1.34 m. high. A very interesting detail was observed in the door head, which may reflect a primitive attempt at arch construction. The brick courses were found to slope down toward the center of the door head, bringing the overhead thrust to bear more upon the door jambs. Now this condition might have been merely accidental, for the earth pressure may have weakened the lintel bricks. If such was the case, however, the courses above the door jambs should be horizontal and a break might be expected directly above the point where the jamb meets the lintel. But this did not occur. Instead, the brick courses sloped upward from the center line to a considerable distance past the door jambs, straightening out gradually as they approached the top of the wall.

"Passing through this doorway we turn right to the adjacent corridor and back into the vestibule. This method of entrance and exit was evidently calculated to prevent confusion when the shrine was visited by a larger number of devotees. [P. B.] "

Isolated walls were found in M 7-8 and in M 10-11, notable chiefly for their niches, one of which (M 8) framed a small window, 50 cm. high and 10 cm. wide. The adjoining walls had disappeared completely and no reconstruction of these buildings could be attempted. The excavators of the underlying strata discovered what appeared at first to be a direct connection between these remains of *VIII-C* and the walls of an older temple. But, as Mr. Bache writes, "the coincidence is merely superficial. It is disproved by decisive differences in elevation between the base of the *VIII-C* wall and the top of the older wall. Apart from this divergence, the presence of the window in the *VIII* wall (Square M 8), occurring where there is a cross wall of the older stratum, renders any inner connection definitely impossible." The present substratum had plainly a central court in M 7-8, a place formerly occupied by the temple of Str. *IX*.

One other contemporary building is worthy of careful notice. It is a large structure taking up Squares M-Q: 6-7, and it abuts against the northeast wall of the Central Shrine. Its construction is unlike that of any other building on this level. The walls are wider than is customary at this period, averaging 1.4 m. "The bonding is unique in that the bricks in every odd course were laid with their long sides perpendicular to the face of the wall. Five of the rooms have no doorways and there is no visible means of entrance from the outside. Access must have been gained by means of steps, and the door sills, if they ever existed, could not have been less than 1 m. above the floor level. The central room (884), measuring 11.7 m. by 4.4 m., was paved with bricks which had a thin coating of bitumen on top. The few remaining smaller rooms had floors of bitumen applied directly to the earth. In the floor of R. 884 was a depression 11 cm. in depth and 4.2 m. wide; it faced the passage leading to R. 882, and it extended clear to the opposite wall. Through the east wall of R. 889, one of the minor later additions to the building, was an oblong bin made of thin walls of dried mud, 15 cm. in thickness. [P. B.] " There was no way of determining the precise function of this complex of rooms.

We may now leave the acropolis of *VIII-C* and turn to the next layer, which represents the second occupation of the eighth stratum.

VIII-B (Plate X). The transition from *C* to *B* is marked by a series of changes that affected profoundly the general appearance of the settlement. Only the sanctuaries have survived. The large structure centering about R. 884 has disappeared, giving way to a raised courtyard. New rooms have been erected to the southeast of the Central Shrine and around the Western Temple. The additions cause the site to appear overcrowded and obscure the architectural features of the older edifices. The faultless taste of the builders of *VIII-C* is not as much in evidence as it was formerly.

Let us first consider briefly the changes in the buildings taken over from the preceding occupation. These buildings are, as we have indicated, the temples and shrines of *VIII-C*. To begin with the Western Temple, the sanctuary fared badly at the hands of this new generation. The main doorway was blocked with bricks, the fine niches in the front wall were filled in, and rooms of an inferior type were put up directly against the northwest and northeast sides of the structure. It appears in fact as though a definite effort had been made to deface the temple. R. 873 has now acquired an oven and is divided in two by a small wall

of mud brick. As said before, we do not know what may have precipitated this virtual desecration of the precinct and the subsequent, if not consequent, construction of the esthetically unwelcome additions, the precise function of which is not entirely clear. "The strange rectangle in front of the blocked doorway may have served as the foundation of a ramp leading perhaps to a second story. In that case, the wall in the center of R. 878, near the westward corner of the building, was the newel wall of a stair.⁸ In R. 879 there is a small batter platform made of the same cement mixture that was used in the podia. [P. B.] "

No changes appear to have been made in the Central and Northern Shrines. The Eastern Temple, however, did not escape alterations, but they were of such a nature as to bear out the continued use of the building as a place of worship. The chief innovation consisted in the discontinuance of the old platform by the southeast wall of the cult chamber and the construction of a new one near the center of the temple. The new podium was turned 90 degrees as compared with the old one, being now laid on the long axis of the building. It resembles the podium of the Northern Shrine, but is characterized by neater and more careful construction. It is 1.6 m. wide and 2.6 m. long. The foundation consists of two courses of mud brick set into the floor, not above it as in the other instance (for details and cross sections cf, Pl. XIV, top). Directly on top of this base was poured a layer of cement-like plaster 13 cm. deep. Here again we have a roughly anthropomorphic representation, incised in the cement coating of this rectangular elevation; in the Northern Shrine, it will be recalled, the whole platform had been fashioned into the desired representation. The only other noteworthy innovation in the Eastern Temple is the erection of a curtain wall in R. 801.

The one new structure of this period which presents an independent unit is to be found in Squares M 7-8, thus occupying the space assigned formerly to the small court southeast of the Central Shrine, and earlier still given to an independent temple (Str. IX). The building is practically square and rises in the center of the site. It consists of eight deep and doorless chambers whose walls were preserved to an average height of 2.5 m. A careful examination of each wall, brick by brick, left no doubt that the whole building, which continued into VIII-A, had never been equipped with the ordinary type of entrances. The framework of the roofs was of wood, covered with reed and mud

⁸ This suggestion was first made by Dr. Jordan on the basis of parallels at Uruk.

plaster, probably with a small opening as the only means of access. The rooms were obviously used for storage purposes. In times of siege the central location and the protected position of this structure made it an excellent defensive compound; indeed, many basketfuls of sling pellets were recovered at this spot.

To *VIII-B* should be credited one other construction useful alike in peace and war. It is a deep well, located in J 7, with a diameter of 2.8 m. (Pl. XXV. *a*). By the end of the third campaign our workmen had excavated the well to a depth of 24 m., without arriving at the bottom. The sides were covered with a coating of mud plaster 1.5 cm. thick. "Two rows of staggered indentations went down the side, providing serviceable if precarious footholds. As the well deepened, the diameter decreased gradually to 2.4 m. at a depth of 23 m., where the plaster coating ceased. Leading from the well towards the inside of the settlement was a water conduit typical for this level. It consisted of two rows of flat stones on end covered by flat lintel stones. The sides and walls of this channel were covered with bitumen, rendering it water-proof. The slope was half a centimetre to the metre. [P. B.] "

VIII-A. (Pl. IX). The latest occupation of Gawra *VIII* marks a return to sound architecture and to adequate site planning. These objectives were attained by means of the most extensive alterations attempted in any phase of this stratum, as a result of which one-third of the site was covered up completely (locus sections 9-11, across the entire width of the mound), a totally new set of structures being erected on the freshly leveled area. The whole section rose approximately two metres above the mean level of *C*. Since the floors of the structures taken over from the first occupation had risen but slightly during the same period, *VIII-A* presents of necessity considerable variations as to level. How these discrepancies were counteracted will appear in the course of the following account.

Again we shall turn first to the re-used buildings, which generally have a background of religious tradition. This time we shall begin with the Eastern Temple.⁹ This structure had been allowed to remain virtually intact, except that the door at the head of the curtain wall dating from *VIII-B* is now blocked with bricks. There is, however, a new series of rooms and enclosures, starting with a well-constructed room abutting against the north corner of the temple, and extending in an irregular but unbroken succession to the limits of the old northern

⁹ For an account of the finds from this Temple *AASOR*. IX. 32 f.

compound. The room immediately adjoining the temple (832) was used for ablution purposes. The floors were water-proofed with bitumen and a large pottery basin was set in the west corner. The same method of water-proofing was applied in the liwān of the temple itself, where the floor had been paved with bitumen starting at the base of the walls and sloping gently away from the building towards the court-yard in front. Very likely this improved treatment of the liwān floor was made necessary by the difference in elevation between the old temple and the new adjoining structures. The floor of the ablution chamber was nearly half a metre higher than the floor of the liwān, so that the latter had to be suitably protected. Levels in this whole section of the site are particularly subject to fluctuation owing to the various additions made at different periods. Thus the terrace to the northeast of the ablution room is as much as 65 cm. higher than that chamber, from which it was entered through a door that had two brick steps laid on its sill and covered with bitumen.

The intermediate structures that close up the space between the Eastern and Northern sanctuaries are curiously irregular. They were evidently used for the temporary herding of sacrificial animals and for the storing of temple offerings. It should be stated in this connection that much of the floor of R. 801 was covered with quantities of knuckle bones of sheep, and this fact throws added light on the character of the building additions which we have been discussing.

Not far from the north corner of R. 806 was found a cylindrical structure which was paralleled by another one in Square J 10, at the opposite corner of the site. The two "resembled base structures of columns and were constructed of loose brick covered with mud plaster. They were built in what had formerly been doorways. They were ornamental in character and were not used as bearing members. [P. B.] "

Alterations were also carried out in the Northern Shrine. The old corridor (867) was blocked by a partition, and the construction of R. 865 necessitated a modification of the vestibule (809). R. 868 was torn open, doubtless to allow more space at the entrance of the shrine. Since the floor level of the vestibule had risen, an inclined plane led down to the steps in corridor 866. As in the other buildings, the walls and floors were covered with mud plaster.

Turning now to the Central Shrine, this building faced in *VIII-A* a large enclosed court (830) paved with small stones set in mud plaster. "At one time the court had a raised platform at the southeast end upon

which entered a long and narrow street bearing southwest to the edge of the site. A large pottery basin, 75 cm. in diameter, was set in the floor near the western corner of the court, its wide rim flush with the floor (like on Pl. XXIV. *b*). Across the niche of R. 818, which in common with the rest of the shrine had survived two previous occupations, was built a low parapet wall to keep water from draining into the room through the window that was by now near the court level. Differences in level between the *VIII-C* shrine and the *VIII-A* court caused the construction of a ramp inside the liwân (835) in order to facilitate access to the old building (Pl. XXI. *b* and *c*). The ramp inclined upward from R. 833 to the court. It was flanked on each side by a narrow parapet of mud brick, 15 cm. high and 18 cm. wide, and had a slope of 13 cm. to the metre. It was 3 m. long and 1.5 m. wide and had a floor of hard mud plaster stained yellow. [P. B.] "

One other building dating from a previous occupation has been retained. The eight doorless chambers adjoining the Central Shrine have lost nothing of their former usefulness. R. 817 now contains a pottery kiln, its walls of fused clay bearing evidence of the high temperatures required in firing the various fabrics.

It remains now to consider the new building units that have no definite relation to the structures inherited from the preceding settlements, and to obtain a composite picture of the township as a whole. A glance at the plan will show that most of the new enterprises are grouped in the west and south portions of the site. To render this possible older buildings had to be torn down, there being little open space available. The doomed structures were the old Western Temple, whatever its use in *VIII-B* may have been, and the additions that had risen about it. The walls were actually not destroyed to their foundations, but were allowed to stand to an average height of about one metre, the rest being filled in later. The resultant rise in level of the section thus affected made it necessary, among others, to construct ramps leading to such older sections of the township as, e. g., the Central Shrine. The existence side by side of the old and the new is one of the outstanding characteristics of the present occupation and, incidentally, it serves also as an excellent guide through the architectural and social vicissitudes of the entire stratum as a unit.

It will be recalled that *VIII-C* was primarily an acropolis. The same was largely true of *VIII-B*, since the secular and semi-secular buildings of that time were distinctly secondary in importance. In township *C* the

center of gravity shifts away from the sanctuaries. They may still constitute the nucleus around which the new town will grow up. But the three shrines that have survived will soon be outnumbered and effectively counterbalanced by buildings of residential and commercial aspect, and an unmistakable worldly tone will permeate the once quiet and restful religious center. That this is an altogether plausible interpretation may be seen from the type of buildings which rapidly fill up the new quarter of *VIII-A*.

To take a few concrete examples, let us first examine the structure facing the Central Shrine. The court (830) that separates the two has already been mentioned. A shallow niche accentuates somewhat the unit with which we are now concerned. A long reception room (829) is flanked by two rooms on the southeast and one long room with two doorways on the northwest. The door sills are raised about 20 cm. from the level of the floor and are made of mud brick. The southwest wall is decorated with two wide shallow niches, though they are virtually concealed by rooms (850, 851) that have been built almost against them. A long and irregular room (826) is part of the building, but has no direct communication with its other portions, having instead an individual entrance from the southeast. It is noteworthy that the double crenelation is absent; a trace of the old ornamentation is preserved, however, in a few simplified niches, one of which takes the place of the *liwān* as well. The severe symmetry that was so typical of the past is also upset. In short, the traditional architectural motives are on the wane, even though former building conventions still maintain a certain hold. Apparently the character of the building did not call for any special conservatism of design; this might be essential in temples, but need be no more than optional in private dwellings.

The unwieldy structure built back to back against the house just discussed contained a batter mortar built into R. 849. The contiguous rooms were probably stalls for the storage of newly made pottery. Similar stalls were put up along the northwest edge of the mound, which evidently represented the township's bazaar.

Two streets cross at approximately right angles in the new quarter of *VIII-A*. One runs northeast and southwest, from the southeast wing of the Central Shrine to the western portion of the site. It is met about midway by the other street, which is fairly straight and about 1.5 m. wide; this thoroughfare was paved in part with a variegated mosaic of potsherds set in lime plaster.

At the intersection of these streets we have the west corner of a large compound that includes a hall (846), an open inner court (848), and the house centering about R. 822. The hall in question was vaulted, and what has remained of it is sufficient to prove that the vault was built with true arch construction of mud brick (Pls. XIII and XXIV. *a*). The average span is 3.25 m. and the length is 8.5 m. "The wall on the street is more than twice the thickness of the opposite wall, being 1.75 m. wide. This great disparity was probably deemed necessary owing to the fact that the street wall stands free and has no supporting walls as has the side opposite. The spring line of the vault is near the floor level and the intrados springs up in a smooth and graceful arc. The bricks of the archivolt are slightly wedge-shaped, thus playing the part of voussoirs. There is no transverse bonding, since the longitudinal joints were one above the other, but as the wall rose and the vault turned inward the individual bricks became wider, thus taking up the space left open by the curving of the vault. The sides of the vault are cut up by irregular depressions resembling niches which were not provided in the original structure, but were constructed later to enclose wall-benches. When the arcs of what remained of the vault were projected the hall was found to be about 2.1 m. in height. [P. B.] "

To the northeast of this vaulted hall is a dwelling in which was incorporated the only full liwân built during *VIII-A*. The liwân (823) opens on an enclosed court or terrace (848), and leads on the other side to the reception room (822). The disposition of the doors follows the "broad-room" arrangement. The four smaller rooms were apparently the living and sleeping quarters. The average size of bricks is the same as in the shrines (11 by 22 by 44 cm.), but the bonding throughout the buildings of this period differs from that of the older structures (cf. Pl. XVI, bottom).

The remaining structures of *VIII-A* call for no special comment. The plan of the settlement as a whole is also clear. Two main parts are plainly distinguished: the Old Quarter in which the sanctuaries are dominant, and the New Quarter which has a residential and commercial character. The distinction is thus not only chronological but also functional. Within the two sections of the township the grouping of the buildings is also different. In the acropolis the final plan was dictated by the location of the old sanctuaries. By building up the open spaces between the three shrines a large "square" was obtained, all the buildings being grouped around a main court which was open only to

the south. The ultimate result was protection against the elements as well as against attackers who might be lured by the fame and wealth of the place.

The designers of the New Quarter had the advantage of starting with a clear slate. Their principal contribution was adequate provision for circulation by means of two well placed thoroughfares. Unhampered by restrictions imposed by religious tradition, these builders were free to try out novel architectural ideas, such as the vaulted hall and the new bonding methods. In the last analysis, however, the modern secular buildings are not entirely free from the influence of inherited temple architecture. Their builders could not, or would not, make a decisive break with the past.

Our brief survey of the architectural remains of Gawra is now completed. The historical connections of these finds, as compared with the results from other contemporary sites, will be touched upon later.

2. POTTERY

(Plates XXVI-XXXI; LXII-LXXVI)

By DOROTHY CROSS

The study of the extensive ceramic material from Tepe Gawra has been divided, in accordance with the method followed in the present work, into two different and essentially independent parts. The first of these aims primarily at setting forth the internal evidence furnished by the pottery of the first three campaigns. It is concerned with the description of the developments and the changes observable from level to level in terms of wares, shapes, and decoration. The primary task is to bring out the salient characteristics of the pottery from each individual stratum, and it is to this effort that my own work has been confined. The question of foreign relations and of possible synchronisms with other sites, with all its cultural and chronological implications, has properly been relegated to a later portion of this book.

While most of our material was unearthed in the course of regular excavation and is thus definitely stratified, we have also a certain amount of pottery found in the trial trenches at levels earlier than Str. *VIII*. The relative sequence within this latter group is sufficiently clear, but no definite stratum can be assigned to the specimens in question until the excavators have uncovered the early prehistoric levels of Gawra. For this reason our first section will deal with the "unstratified" pottery, to be followed by separate accounts for each level from Str. *VIII* to the top.

a. Unstratified Material (Plate LXII)

As has just been indicated, the pottery grouped under this heading was recovered from the trial trenches and antedates Str. *VIII*. It is significant that all but two of the illustrated specimens of this class show painted ornamentation. We are dealing obviously with the remains of a series of occupations that belong in the main to the so-called Painted Pottery period.

Apart from sherds, many of them older than the illustrated material, which will be discussed in their proper contexts in a future work the earliest specimens are Pl. LXII. 1-3, and 16. All are handmade bowls,

the latter two with tripod bases. Fig. 1, of buff ware, is wet-smoothed and is decorated in brown paint. The design consists of radial lines on the rim with a solid inside band below and a comb-like pattern in the center of the base. Fig. 2 is of brown ware and wet-smoothed; the design, in red paint, covers the inside walls and consists of a zigzag pattern surmounting a broad band. Fig. 3, of buff ware, is wet-smoothed and its rim is decorated with series of dark brown lines alternating with blank spaces; a narrow band of the same color is applied to the inside below the rim. Fig. 16 is roughly made and undecorated; the ware is brown.

In the next group we have three handmade cups, which are illustrated as Figs. 6, 8, and 12; all are wet-smoothed. Their stratum is in all probability *XIV*, and they are remarkable chiefly for their polychrome ornamentation. The colors are light red and purplish brown. Fig. 6, of buff ware, displays a disc base. The outside decoration consists of triple zigzags, the outside line red and the two outside ones brown, and of four bands, two red ones flanked by two painted in brown. On the inside below the rim we have a red band and a brown one directly below it. Fig. 8 presents only a minor change in that it has three bands and quadruple zigzags, the color scheme remaining the same. In Fig. 12 vertical lines take the place of the zigzags with a cross-hatched triangle between them pendent from the rim. The ware is in this case brown.

Next in age are two groups of vessels which may be dated tentatively to Str. *XIII*. Figs. 17-19 contained infant burials, with Fig. 9 serving as the lid of No. 17. At the same level, but not associated with the burials, were found two tumblers (Fig. 11, and Pl. XXVI. *b*), and the bowl shown as Fig. 13 (= Pl. XXVI. *a*). The lack of decoration in Fig. 17 seems to have been compensated for by its ornamented lid (Fig. 9). This bowl, with ring base, has a scalloped pattern in brown paint inside the rim. Fig. 18 (Pl. XXVI. *c*) is a large jar 440 mm. in height and 540 mm. in diameter. Of greenish grey ware, it is wet-smoothed, and the upper third of its outside surface is decorated in dark brown paint. The design consists of two staggered rows of double-axe figures spaced in a field of straight horizontal lines. Below there is a zigzag pattern (accidentally omitted in the drawing, cf. Pl. XXVI. *c*). Fig. 19 is a large globular jar of greenish grey ware, handmade in common with all the other specimens of this group, and wet-smoothed. The paint, applied on the neck and shoulders, is dark brown. The

design is composed of a row of diamond-shaped figures, alternately cross-hatched and filled around a central cross. The pattern is framed on either side by two narrow bands and a broader one.

Fig. 11 and its companion piece, Pl. XXVI. *b*, are tall pointed cups of extremely fine buff ware, coated with a cream slip. The design is applied in both instances in dark brown paint. In the case of Fig. 11 we have a pattern composed of sharp and irregularly spaced chevrons below the rim with a graceful feather motive on the bottom. The other piece displays the same feather motive on the lower surface, but the upper half contains a row of diamond-shaped figures with stippling among them, framed by two bands; in addition there are the chevrons noted above. Fig. 13 (Pl. XXVI. *a*) is a cup or bowl of greenish grey ware coated with a cream slip. The decoration consists again of chevrons, irregular diamond figures, and stippling, with triangles taking the place of the former feather design.

The remaining specimens illustrated on Pl. LXII are all bowls and cups which date in part from a level corresponding probably to Str. XII, and in part to Str. IX (or else to a period intermediate between IX and VIII). The older group comprises Figs. 4, 7, and 10. Fig. 4 is of greyish buff ware and is decorated on one side of the inner surface with a cross-hatched design in dark brown paint. Fig. 7 shows reddish buff ware and reddish brown decoration composed of cross-hatched and checker-board patterns. Fig. 10 is of greenish grey ware, wet-smoothed. The paint is dark brown and the design yields simple bands and pegs.

To the later group belong Figs. 5, 14, and 15. The bowl shown in Fig. 5 is of red ware, undecorated except for an inside red band below the rim. Fig. 14 has light brown ware, cream slip, and dark brown paint. The design recalls strongly that of the burial urn shown in Fig. 18, for which reason special attention should be called to the difference in levels. Fig. 15 is of buff ware and has a rounded base, sharp carination above it, and concave walls. The decoration is carelessly applied in black paint and consists of plain vertical and horizontal lines.

Lastly, mention should be made of the painted wall knobs as represented by Fig. 210 (Pl. LXXV). The banded decoration in red paint is typical of this type.

After this brief survey we pass to an examination of definitely stratified pottery, beginning with Str. VIII.

b. Stratum VIII (Figs. 20-50, 211, 216-17)¹

Just how much the occupants of Str. *VIII* owed to their predecessors as regards technique, shape, and ornamentation remains to be ascertained. On the basis of the evidence available at present the pottery of Str. *VIII* differs from the material prevalent in the lower levels by the all but total absence of decoration and by emphasis on certain particular shapes.

To take first the stratum as a whole, certain forms are current throughout its three occupational layers; they include the round-based and crude flat-based bowls, the straight-sided and bell-shaped cups, the deep carinated bowl with tapering base, and the globular pot with flaring rim and a tendency toward body carination, and pots with tubular side-spouts. In addition to these forms, however, *VIII-A* presents an abundance of types which doubtless herald the arrival of a new cultural element possessed of a distinctive ceramic tradition. The new types are the finer flat-based bowl and jar, painted and ribbed chalices, the globular and ovoid jar, and the double and triple-mouthed jars.

The pottery of this period was in the main wheelmade, but hand-made fabrics were not uncommon, particularly in the case of large household vessels and certain specimens of peculiar form.

The better examples are made of buff, grey, or greenish grey ware. Buff is the predominant color; it varies from a light to a dark hue and shades off into true red only on rare occasions. By the side of greenish grey, usually pale in color, we have isolated specimens of a purer green. The household pottery, on the other hand, is brown, reddish brown, or dull grey.

The surface of the finer wares is wet-smoothed as a general rule. Slips seem to be confined to jars, the color being cream save for single cases of grey and red. Apart from incised lines ornamentation is not found in Str. *VIII-B* and *C*. But with the influx of new forms in *VIII-A* there may be observed a tendency toward painted ornamentation applied to shoulders of jars (Fig. 42) in cross-hatched triangles of red or brown and in rectilinear patterns of the same colors on the bases of chalices. While complete chalices were not recovered from Str. *VIII*, the available bases correspond to the one perfect specimen from the Str. *VII* (Fig. 58 = Pl. XXIX. *a*). An incised herringbone pattern occurs on a square vessel from Str. *VIII-A* (Fig. 216), and horizontal ribbing

¹ The Figs. mentioned in the following discussion will be found on Pls. LXXIII. ff.

appears in the same layer on a number of vessels and on chalice bases. Identical ribbing has been found on corresponding types from Billa VI. Burnishing is rare. The finer vessels are wet-smoothed, but this is done in a careless manner. Only a few specimens show definitely horizontal or vertical smoothing.

Bowls (Figs. 20-26). The most common form of bowl is that with a round body and base. Both wheel- and handmade, it is found throughout the three phases of Str. VIII. The handmade bowls are normally of coarse-grained brown or reddish brown ware, while the wheelmade examples are usually greenish grey. The rims may be straight (Fig. 22), or curved inward (Fig. 26), prolonging in each case the lines of the body, or else they may be formed by a curve reversing the line of the body (Fig. 20). The grooved rim and the double-curved body (Fig. 21 and Pl. XXVII. b. 1) belong apparently together, both features being present in the four extant examples of this type. Fig. 23 (= Pl. XXVII. b. 3) is an isolated instance of an ovoid bowl with the longer sides curving downward.

One flat-based type is common to all three occupations of Str. VIII: the handmade bowl of coarse brown or reddish brown ware (cf. Fig. 56). Poorly shaped for the most part, it is the crudest example of pottery found in either Str. VIII or Str. VII. Figs. 24 and 25, both from VIII-A, are isolated occurrences.

Deep Bowls and Pots (Figs. 27-34). Under this somewhat vague heading have been listed several individual types, which have in common wide mouths, bases that are either round or tapered down to varying widths, and a marked tendency toward carination, but otherwise remain distinct from each other. While not limited to any single phase of this level, they are particularly common in Str. VIII-A, but disappear completely in the level above. As for carination alone, it had carried over from the previous occupations to attain in Str. VIII a prominence that was not to be paralleled again or even approached. The predominant ware is buff, never coated with a slip.

The leading type (Fig. 30) is characterized by a sharply rounded base, carinated body, and slightly everted rim. Secondary variations are achieved in VIII-A by means of a more distinct rim and widely spaced horizontal ribs decorating the shoulder (Figs. 31 = Pl. XXVII. b. 2 and 48). Closer ribbing is found on a contemporary cup-shaped piece (Fig. 34 = Pl. XXVII. b. 5) whose straight sides taper in a double curve to a pointed base.

A popular type throughout the stratum is represented by the globular pot with sharply rounded body and straight rim (Fig. 32). Frequently there appear here three unevenly spaced suspension holes. A shallower pot with low carination and constricted rim has four such holes (Fig. 29).

A shallow vessel with mild carination and short everted rim (Fig. 28) appears only in the uppermost occupation. A unique vessel with irregular rim (Fig. 27) belongs to the same phase. The irregular shape may have been caused accidentally in the process of firing. In this connection attention should be called to Pl. XXVII. b. 6, which shows a pot with low carination and similar distortion of shape at the top.

Fig. 33 is an unusual vessel from Str. VIII-A. Its constricted neck high shoulder with deep groove, and the fine incised shoulder decoration render it without parallel in this stratum. The piece is of dark grey ware, well burnished.

Cups (Figs. 35-36). Two types of cup proper occur in this level, one bell-shaped (Fig. 35 = Pl. XXVII. b. 9), and the other with straight corrugated sides (Fig. 36). This latter form is particularly common. The characteristic corrugations are usually irregular and the bases disclose slight rounding. Though the type as such continues into Str. VII, the corrugations are there clearly on the decline. Of the bell-shaped cup we have only four specimens. This shape is not encountered in the immediately succeeding layers, but recurs with certain changes in Str. IV.

Jars (Figs. 37-51). The most common form of jar has a carinated body, slightly constricted neck, and everted rim. The carination is central (Fig. 41), high and thus forming a shoulder (Fig. 43), or low (Fig. 42). The curve of the base may be sharp or flattened. The jars are usually wet-smoothed, but from Str. VIII-A comes a jar identical in shape with Fig. 43, with a vertically burnished coating of red slip, while two contemporary specimens with cream slip correspond to Fig. 42. In these two instances the shoulder has a painted decoration of cross-hatched triangles, one in red and the other in brown. In Fig. 40 (Str. VIII-A) carination gives way to a round curve. From the same top-most phase comes the isolated specimen of globular jar with short beveled rim (Fig. 45).

The mildly carinated form with short narrow neck and grooved rim (cf. Fig. 44) is found in Str. VIII-B and C, while the unique specimen with ledge rim and grey slip (Fig. 46) represents Str. VIII-B.

Also in the topmost layer, and restricted to it, are found globular jars with flat bases, exemplified by Fig. 47 (= Pl. XXVII. b. 8). The neck is normally curved and flares to a collared rim.

The only extant storage jar (Fig. 51) is made of buff ware, and has an oval body and carinated rim.

There are two types of large vessels with mouths wider than the body, which should perhaps be listed in this connection. The rims may be beveled (Fig. 50), or they may curve outward and then again inward from the body (Fig. 49). In both groups we occasionally find circular holes near the base. Inasmuch as these vessels were invariably set in the ground with their rims flush with the level of the floor, to be used as wash basins, the holes were obviously intended to facilitate drainage (cf. Pl. XXIV. b, and Pl. IX. Rs. 830, 832).

Spouted jars occur throughout the level, but are most common in Str. VIII-A, whence they carry over to the next occupation. They are always of globular shape and their rims are small and rolled. The spouts are long and narrow (Fig. 37 = Pl. XXVIII. b. 5).

The two-mouthed jar (Fig. 38) is from Str. VIII-A. It is handmade and of coarse grey ware; both openings are of approximately the same size (d. 45 mm.). From the same layer comes a triple-mouthed jar (No. 39 = Pl. XXVII. b. 7). Also handmade, but of buff ware, it has openings evenly spaced, which correspond closely in size (d. 45 mm.).

Varia. The specimens mentioned under this heading require individual classification. A square receptacle (Fig. 216), is unfortunately too fragmentary to disclose its complete shape. Of well fired grey ware, it is incised with a fine herringbone design. No. 217 represents a rectangular compartment tray in three parts.

Ladles are common throughout the stratum. They all follow the same model with deep round bowl and long curved handle (Fig. 211 = Pl. XXXI. b. 3). Two other examples are illustrated *ibid.* Nos. 1-2—the former being of grey ware with a dark grey slip. The variations in size are considerable.

c. Stratum VII (Figs. 52-83, 195, 204, 207, 214)

The pottery of this level is noteworthy for several reasons. In the first place, it imparts a marked degree of individuality to an occupation of which the architectural remains are meager and unimpressive. The relationship with Str. VIII-A is established by the continuance of

several important types, but side by side with these we note the appearance of new forms.

The continued types include the crude flat-based bowl, the chalice, spouted jars, and the globular and ovoid pots, the latter two forms acquiring added prominence and displaying certain developments and changes as regards detailed features. On the other hand, the corrugated cup loses in popularity, while carination has been retained only on bowls and on a few scattered jars. Round-based bowls are replaced largely by flat-based forms and disc and ring bases make their appearance. Among the new types, the bottle and the ring-based jar call for special mention.

As was the case with the material from Str. *VIII*, most of our present pottery is made on the wheel, handmade specimens being confined to household objects and vessels of highly specialized forms. Buff is still the predominant ware, but greenish grey ware shows a marked gain.

The firing is definitely superior to that of the preceding level; at times it approaches vitrification. This is especially in evidence with a fabric unknown to Str. *VIII*, but introduced now for the first time and continued in Str. *VI*. The ware is a dark bluish grey, found among both bowls and jars, and the specimens in question are always extraordinarily well fired.

The surface is normally wet-smoothed. Slips are more frequent, however, than they were before, the color being pink, cream, or brown. Painted ornamentation has become one of the significant features, the colors being confined in this case to red and dark brown. In addition to the painted chalice, which will be discussed below, we have a number of painted sherds. The commonest designs consist of simple geometric patterns, cross-hatchings, filled and hatched triangles and scalloped figures on rims of jars. A highly elaborate arrangement is found on Pl. LXXVI. 10. Divided into panels, the pattern is done in reddish brown paint. Even more frequent is the use of incised ornamentation, sometimes combined with painting. Examples of this practice are given *ibid.* Figs. 8 and 9. The former bears a representation of a goat painted in brown, the style being typical of this period as may be judged from the foreign analogues. In Fig. 9 we have a human figure painted in dark brown; contemporary parallels are this time infrequent.

To return to incised decoration, we notice the usual simple geometric designs, including cross-hatchings, herringbones, and comb pat-

terns in addition to more complicated arrangements. Combined incised and appliquéd work is illustrated *ibid.* Fig. 7, where we find an incised plant motive coupled with a serpent modelled in the round. Numerous examples of such serpents came to light in this stratum, the snake being ordinarily represented with its head overhanging the rim. *Ibid.* Fig. 11 shows a scorpion in relief combined with a cable moulding. In the case of Fig. 5 (on the same plate) the same technique has been employed on a wavy ledge handle. Ribbing continues on chalice bases and on shoulders of jars.

The most significant innovation is the potter's mark which is frequently encountered. Incised before firing, it assumes various specialized shapes (cf. Figs. 75 and 80, Pl. LXVI).

Burnishing is more frequent than in Str. *VIII*; it is found chiefly on the nearly vitrified bluish grey ware. The specimens in question take a very high polish.

Bowls (Figs. 52-57). The flat-based bowl of coarse brown or reddish brown ware which was so common in Str. *VIII* continues popular in the present level. It is always handmade. As an occasional departure from the norm the base may be set off from the body, the sides becoming more prominently rounded (Fig. 54). This special type occurs also in wheelmade specimens.

The round-based type will really come into its own in Str. *VI* (Fig. 99). It resembles also the bowls of Str. *VIII* with regard to body form, but the rim curves inward in a hook.

A trace of carination persists in two similar types, both of which are again to gain in importance in the next level. The type preferred in the present stratum shows a disc base and an outward rolled rim (Fig. 52), but specimens with less defined base and plain everted rim are also frequent. A similar specimen (not illustrated) has a wide ledge rim with four grooves.

Another future favorite is represented by the small flat-based bowl with rounded shoulders and rolled rim (No. 53). The variant with double-curved body noted among the bowls of Str. *VIII* (No. 21) is more accentuated in this respect in the single example from Str. *VII* (No. 55), where it has a disc base and plain rim. Made of the nearly vitrified bluish grey ware, it has a brown slip on the lower half of the body.

Fig. 57 is an isolated instance of coarse red ware. The collared rim

with central groove is rare, but the sharply indented ring-base will be found often in Str. VI.

Cups and Chalices (Figs. 58-59). The cups found in Str. VII represent two types, of which one is common in Str. VIII but vanishes with Str. VII, while the other starts with the present level and continues into Str. VI. The former is characterized by the corrugated sides (Fig. 36) noted before, and the latter may have straight (Fig. 105) or slightly curved (Fig. 104) sides and mildly rounded bases. Both types have approximately the same frequency.

Our only complete painted chalice (Fig. 52 = Pl. XXIX. a) is made of buff ware and is coated with a cream slip to which is applied a design in brown paint. The pattern shows a metope arrangement, a feature observed in connection with the painted chalices of Billa VII. Attention should be called to the curvilinear motive with which the foot is tectonically decorated. The same arrangement is followed on many of the chalice bases found in this occupation. Other bases show the ribbing technique noted in Str. VIII.

The only other complete chalice from the present level (Fig. 59) is crudely made of light red ware and is finished with a pink slip.

Bottles (cf. Fig. 60). This type is found only in Str. VII. Made by hand, it is usually of coarse brown ware and exhibits practically no variations as to shape.

Spouted Jars (Figs. 61-63). These vessels are continued from the previous layer, but become more numerous at this stage. There are among them considerable fluctuations as to technique, some specimens being cruder than those of Str. VIII while others are of decidedly better workmanship. The crude examples are of buff ware and fall into two types, according to the formation and position of the spout, the shape of the rest of the jar remaining relatively constant. In the more common type (cf. Fig. 62) the spout is made of the same piece as the body and projects from its side. In the other type (cf. Fig. 61) the spout is set on the shoulder of the jar. The specimen illustrated happens to be without its spout, but on the evidence of numerous fragments it is safe to state that the spout was comparatively long and narrow, precisely as in Str. VIII.

We have only one intact example of the finer jars of this class (Fig. 63), but the popularity of the vessel is attested by numerous sherds. With its globular body and spout set on the shoulder it recalls again the specimens from the preceding stratum, differing from them only by

reason of its elongated neck and overhanging rim. It is generally made of the nearly vitrified bluish grey and grey wares, and shows a high polish.

In this connection we should mention the double-spouted fragment illustrated on Pl. LXXVI. 2. It is of grey ware with a slip in dull red.

Plain Jars and Pots (Figs. 64-83). There is one class of jar that is peculiar to Str. VII and sets it off from the other levels of Gawra. Its features are a globular or oval body (not carinated as in Str. VIII) combined with a constricted neck and an everted rim. It occurs in a variety of wares, with buff predominating, followed closely by the nearly vitrified bluish grey and dark grey fabrics.

The main type has a medium neck (Fig. 73), examples showing a squatter body and the body bulge low (Fig. 72) or central (Fig. 76) being next in frequency. Not far behind is the type with oval body and narrow neck (Figs. 69-71). Fig. 77 is an isolated specimen with high shoulder and rolled rim. It is made of grey ware, fired to considerable hardness which combines with the thick walls to impart to the piece a texture and weight of stone. The rims are for the most part straight, important exceptions being furnished by Fig. 79, with flat rim extended inwards, and three specimens exemplified by Fig. 78, where the rim forms an inside grooved shelf with a downward incline.

Globular pots with short outsplayed rims fall into two categories depending on the rim. This may be either plain (Fig. 75) or rather intricate, being rolled outward and having a deep groove on the inside just above the neck (Fig. 74). Fig. 80 stands isolated among the jars, with its globular body and rolled everted rim. It bears a potter's mark, as does Fig. 75.

Body carination is restricted to one type of larger jar with constricted neck and flaring carinated rim (Fig. 81). The carination is, however, very slight and might be regarded as rounding. Nearly all the examples of this form are made of the nearly vitrified bluish grey ware.

The flat-based jars include a common type characterized by an oval body, a rim like that in Fig. 79, and ring base (Fig. 68); there is here considerable diversity as to ware. All the other flat-based jars are represented by single examples. Fig. 64 has a long oval body, indented ring base, constricted neck, and plain flaring rim. Fig. 65 has a more slender body and curved neck. Fig. 66 is similar to forms found among the round-based jars, but here the base is flat. Fig. 67 has the high

sharp shoulder and rolled rim found on jars from Jemdet Nasr, but lacks the spout and handle of the southern specimens. The high position of the shoulder may account in this case for the presence of the decorative design below it, for otherwise the contemporary wares are either ornamented on and above the shoulder, or else the entire vessel is decorated. The moulded ring round the base of the neck counterbalances the rolled rim. The only other example of moulded ring at the base of the neck is found on Fig. 82, a jar remarkable for its narrow neck and equally narrow base. The collared rim also calls for special mention.

Fig. 83 represents a unique storage jar of greenish grey ware, with its elliptical body and carinated ring base, the diameter of the base balancing that of the rim. The horizontal incised lines are to become a common decorative motive on the storage jars from the next stratum.

Varia. The only ring stand from Str. VII is illustrated as No. 195. It is made of red ware, and its very thin sides, small size and unusual shape combine to render this piece unique at Gawra. It is wheelmade, save for the base which was fashioned by hand.

Fig. 207 may be a stopper. Fig. 214 shows the only ladle found in this stratum; it exhibits a refinement unknown to the potters of Str. VIII. Attached to one side of the inner wall is a ferrule-shaped addition extending from the center of the base to the rim, roughly parallel with the side of the bowl. The space between them was doubtless intended for a wooden handle, as may be gathered from the two holes aligned to take the cotter pin.

The last specimen from this stratum is a curious elongated object shaped like a phallus (Fig. 204 = Pl. XXVIII. a. 3). Its dimensions are 690 by 143 mm. It is made of grey ware, well baked, and burnished. The knobbed carinated head is pierced at the top by a hole 13 mm. in diameter, and there is a moulded incised ring round the neck. The inner surface is irregularly rippled. The object was manifestly employed for cult purposes, but its precise use is subject to speculation.

d. Stratum VI (Figs. 84-146; 196, 198, 202-03, 206, 208, 213, 215, 218)

Str. VI presents a larger number of well defined classes and types of pottery than any other level at Gawra. It is significant that the very forms which occur most frequently belong, with few exceptions, to new types that have little in common with the material of the strata below. A single feature might duplicate one known from the lower

levels, but the outstanding characteristics of the new shapes in their present combinations are now encountered for the first time. This furnishes independent evidence to the effect that Gawra *VI* was settled by newcomers with a pottery tradition as distinct if not as colorful as that of the newcomers in Str. *VIII-A*.

Of the new detailed features we may single out for the present narrow necks, a marked predominance of flat bases, and the presence of handles (cf. Figs. 127-128, and Pl. LXXVI. 4). Carination has disappeared completely, except on bowls. The outstanding type is a pot globular in shape, but with flat, disc, or ring base, wide neck with delicate rim, and a rich assortment of designs incised on the shoulder, all features that are not associated with the globular pots hitherto discussed. Storage jars become frequent, while spouted jars and chalices have vanished. Very noticeable is the all but total absence of painted decoration.

As regards technical details, the pottery of Str. *VI* is almost entirely wheelmade, save for isolated specimens of intricate shape. The characteristic ware is greenish grey, but light and dark grey, grey with a blue and purple tint, and light green are also found. Buff is comparatively rare, in contrast with the preceding levels, but the few extant specimens of this fabric cover a wide range from yellowish to reddish buff. Scattered examples of deep red ware are included among the extensive ceramic finds of this period, while brown predominates in the few handmade vessels.

The firing is greatly improved over that of the preceding occupations, an indirect indication of the developed technique acquired through the casting of copper objects. The clay is generally finely levigated. The nearly vitrified bluish grey pottery of Str. *VII* is found in increased quantities. An analysis of one vitrified specimen of dark grey ware disclosed a firing temperature of 2350° Fahrenheit. Many other pieces, particularly bowls, must have been fired at temperatures exceeding 2000° Fahrenheit.

The surface is almost invariably wet-smoothed, the work showing greater care than had been the case thus far. Slips are fairly common; they occur in cream, buff, red, reddish brown, and light green. Of outstanding importance is the occurrence of several types of the so-called "reserved slip" ware. This curious technique whereby a coating is wiped off in part to expose the body clay, or underlying primary slip, is associated in our settlement with the nearly vitrified or vitrified

fabrics and, to judge from the complete specimens, seems to be confined to bowls and to a few pots. The following variations are found: A cream slip is broken up, exposing dark grey body clay in spirals radiating from the base (was this done on the wheel?) on the inside, and in horizontal bands on the outside (Fig. 96 and Pl. XXVII. *a. 5*). Or else a greenish slip is wiped off to reveal red body clay in horizontal and vertical bands on the inside and horizontal bands only on the outside. Horizontal bands alone are found on vessels of dark grey ware with cream slip. Particularly curious is what one might call the "composite reserved slip" technique: the body clay is dark grey and over it is applied a coating (underslip) in light red; the secondary coating is of a cream color, and the pattern is restricted to horizontal bands both inside and outside; occasionally the ware is buff, the underslip yellow, and the secondary coating red (Figs. 91, 113).

It may be noted in passing that the reserved slip technique is not found at Gawra prior to Str. *VI*, nor does it occur thereafter. Elsewhere this method is encountered in Jemdet Nasr times.²

The decoration is almost always incised; painting is absent except for two examples where crude black dots are placed around the neck and shoulder (Figs. 118, 134). The incised designs are confined to the shoulders as a rule. Straight lines predominate, but triangles, herringbones, interlocking zigzags, and combed patterns are not infrequent (cf. Pl. LXXVI. 6). Modelling in the round occurs only in cases of serpents as described in Str. *VII*, ram's head spouts, and the birds on the "fountain-head" pot (Fig. 138). Burnishing is usually vertical and high polishes are often obtained. Some bowls are polished both inside and outside.

Bowls and Strainers (Figs. 84-103). The bowls of Str. *VI* show a wide variety of types. The most common form is that with carinated shoulder, disc base, and plain everted rim (Fig. 96). Carination is featured also on the second most frequent type, a deeper bowl with disc base and rolled rim (Fig. 89 = Pl. XXVII. *a. 7*). Both types have been noted in Str. *VII*.

The deep round-shouldered bowl with rolled rim and flat base (Fig. 92 = Pl. XXVII. *a. 4*) is known from only two examples. Shallower variants of the round-shouldered bowl, one with a wide rolled rim (Fig. 90) and another with ring base (Fig. 93), are isolated occur-

² See below, p. 159.

rences. Fairly frequent is the bowl with shoulder less pronounced, but with disc base and rolled rim (Fig. 85). Of the squat, flat-based bowl with more complicated overhanging rim (Fig. 88) we have but a single example.

The low-shouldered bowl is less frequent; from a sharp shoulder it tapers gently to a plain rim (Figs. 84, 86). The ring base is a constant feature. A variation of this type, with higher and more rounded shoulder and concave disc base, is illustrated by a single example (Fig. 87).

Rarer still is the type with sharp carination and indented base, as represented by Figs. 94 and 95; the disc base of the latter is offset from the body.

To turn now to round-based bowls, we find many examples of the squat type with rolled rim (Fig. 98). Not infrequent is the shallow bowl with sharply incurved rim (Fig. 99), known already from Str. VII. Fig. 102 is a single specimen with grooved rim, reminiscent of Fig. 21 (Str. VIII), where, however, the groove is set at a different angle. Of the carinated round-based bowl with beveled rim also carinated (Fig. 103) we have two examples.

Figs. 91 and 101 are both unique. The former has the double-curved body as noted in the two preceding levels. Here, however, the extremely accentuated shoulder under a rolled rim and the rippled inner surface combine to place the piece in a class by itself. It is made of yellowish buff ware and finished with an under slip in yellow and a secondary slip in red exposing irregular bands, and fired to the point of vitrification. Fig. 101 also has a double-curved body and sharp carination, but the base is gracefully pointed. The ware is greenish grey, nearly vitrified.

Strainers were common in this occupation. Ordinarily of greenish grey ware, rather coarse, they fall into two types: one with plain incurved rim (Fig. 100), and the other with rolled rim curling inward (Fig. 97). The sizes vary considerably.

Cups (Figs. 104-05). The cups of Str. VI belong to one main type which occurs also in the preceding level. It may be divided into two subtypes, one with slightly rounded sides and rolled rim (Fig. 104), and the other with straight sides and noticeably rounded base (Fig. 105). The inner surface of the former variety is always plain, that of the latter frequently broken with irregular ripples.

Pots (Figs. 106-21). The class of vessels most typical of the pres-

ent stratum consists of globular jars. Since in this group height and diameter closely approximate each other, the term "pot" may be applied. Several types may be distinguished. With but one exception (Fig. 120), all are characterized by a flat base. Another characteristic is a wide mouth. Grey and greenish grey wares are still predominant, but buff fabrics are better represented than they are in any other group of this period. The nearly vitrified ware is found. Most of the pots are made of unusually well levigated clay. On the smaller jars slips are occasionally present, although most specimens are wet-smoothed, but never burnished. The walls are often of extreme thinness.

The commonest individual type, and incidentally the simplest, is represented by a pot with plain flat base and outsplayed rim (Fig. 111), although the rolled rim is normal for the class as a whole. Fig. 112 exemplifies the commonest rolled-rim type.

In addition to flat bases (Fig. 112), we find the convex disc base (Fig. 107) and the ring base (Fig. 109). The offset base appears to accompany the type with sloping shoulders and low body bulge (Fig. 106). In Fig. 114 these characteristics are more accentuated. The squatter type with disc base and carinated rim (Fig. 113) is known from two specimens, one of hard greenish grey ware, and the other of buff ware with a yellow cream primary slip and a secondary slip in red wiped off to expose horizontal bands. Fig. 108 is a unique specimen of bluish grey ware with reddish brown slip, fired almost to the point of vitrification. There are two types with longer necks, one with leveled rim and ring base (Fig. 115), the other with rolled rim and disc base (Fig. 116). The larger pots have flat bases and rolled rims (Fig. 119), or ring bases and wide collared rims (Figs. 121, 141). One small pot also displays a collared rim (No. 117).

Decoration is always confined to the shoulders and consists as a rule of horizontal straight line incisions. Two kinds of herringbones are known (Figs. 106, 107); but these patterns are not always associated with the same types. In one instance crude dots in black paint are applied irregularly round the neck (Fig. 118). In Fig. 117 we have an isolated specimen with plain moulding round the shoulder. Both this piece and Fig. 120 have perforations at the center of the base.

Two exceptional pieces require special mention. Fig. 110 departs from the general norm by reason of its narrow neck. Fig. 120 has a wide mouth, but the round base is unparalleled in this class. The double rim is also a noteworthy feature.

Small Jars (Figs. 122-37). The commonest type of this class is characterized by a squat globular body, narrow neck, and everted rim (Fig. 125). It is one of the new types appearing in this stratum and is marked by a series of variations. A single specimen shows the body bulge flattened and the sides of the base formed in a double curve (Fig. 126). There may be two handles on the shoulder pierced horizontally (Fig. 127), or vertically (Fig. 128 = Pl. XXVII. a. 2).

Two other round-based types occur; in both of them the bases taper almost to a point. The first has a high sharp shoulder and constricted neck flaring to a narrow-collared rim (Fig. 129). The second type is more unusual in general form. The short high-shouldered body is surmounted by a wide long neck that flares to a grooved collared rim, the diameter of which is greater than that of the body (Fig. 130 = Pl. XXVII. a. 3).

The commonest flat-based type has ovoid or globular bodies and long narrow necks. Collared rims are typical. A popular feature is the high shoulder from which the body tapers sharply to a small, flat base (Fig. 133). Frequent is also the sloping shoulder associated with a markedly ovoid body (Fig. 132). Fig. 134 has a high shoulder and the same kind of grooved rim as Fig. 130. Globular bodies (Fig. 131 = Pl. XXVII. a. 1) are less common.

Ornamentation is generally confined to one or more lines incised on the shoulder, but in one instance eight filled incised triangles decorate the shoulder, topped by black painted dots at the base of the neck (Fig. 134). A somewhat larger jar (Fig. 136) with wider neck may be fitted into this general division.

Of the isolated specimens we may mention one with high shoulders and short neck (Fig. 135), and another one with a more globular body, longer neck, ledge rim, and ring base (Fig. 137).

Fig. 122 is a vessel of unusual form. It is equipped with two pairs of holes placed under the rim and on opposite sides, evidently for suspension.

There are two vessels that were originally joined to others by bridges formed in one case by a projection from the rim (Fig. 123), and in the other by a wider projection from the body (Fig. 124). The former is decorated with stamped circles on the rim and bridge.

Large Jars (Figs. 139-46). The storage jar is very common in this stratum as contrasted with the preceding levels. Usually made of green or greenish grey ware, these vessels conform to one general type with

oval body, high rounded shoulder, short and narrow neck, and collared or rolled rim. With one exception (Fig. 145), the bases are only slightly rounded. The most common form of decoration is the combed pattern on the shoulder, bordered by straight lines (Figs. 144-46). Straight incised lines are also used (Fig. 142). No 139 is a single instance of a large globular jar with extremely narrow neck.

Two unique pieces must be singled out. Fig. 140, made of brown ware and finished with reddish slip, has an overhanging rim and constricted neck with an inner ledge. Strikingly enough, it is equipped with two handles placed side by side, which are balanced on the opposite side by two false spouts with a plain circular opening between them. Fig. 143 is notable chiefly for its footed base and ribbed shoulder.

"*Fountain-head*" Pot (Fig. 138). This unique vessel was discovered during our first campaign at what was to prove later to be the northern corner of Square K 7, and perhaps the courtyard outside R. 674.³ Made of buff ware, well fired, the pot measures 340 mm. in height and 345 mm. in diameter. The base is flat and the sides are slightly rounded. The neck curves in slightly, but the shoulder continues independently to an added height of 35 mm. The neck and the extension of the shoulder form thus a deep and sharply tapered groove. The neck is surmounted by a tubular rim, above which is attached at one side a low bowl opening funnel-wise into the rim. The water poured in through that bowl spreads inside the rim to emerge through the wide-opened mouth of a well-shaped ram's head, which faces the bowl-funnel. Midway between the rim and the base of the groove eight ducks in the round are attached side-wise to the neck. After the stream that spurts out from the ram's mouth has filled the vessel, the water overflows and is caught in the groove, while the ducks appear bathing under the little fall. Directly under the funnel the groove widens into a simple spout through which the water finally flows out. Both the arrangement and the shape of this unusual piece suggest a prototype of stone, or perhaps of copper.

Varia. Pot stands are fairly numerous in this stratum. Made of buff or greenish grey ware, they fall into two types. In one, which is the more common one, height and diameter approximate each other (Fig. 198). The sides are slightly concave, with one rim rolled. The

³ Unfortunately, there is some doubt as to the exact level. The trial trench record, which is otherwise so unambiguous, leaves in this single instance a possible choice between Str. VI and Str. V; cf. *AASOR*. IX. Fig. 5-L 3. [E. A. S.]

other type is broad and short, with deep concave sides and both rims rolled (Fig. 196). Three objects from this level, which were found side by side (Square 06), might at first glance be mistaken for pot stands. Upon closer examination, however, they turn out to be cult objects. One of these (Fig. 202 = Pl. XXVIII. *a*. 1; *ibid.* *b*. 4) is of grey ware; four triangular openings are evenly spaced round the sides, below a moulded ridge decorated with an incised pattern. The second one (Fig. 203 = Pl. XXVIII. *a*. 2; *ibid.* *b*. 3) is not unlike the first in general appearance, but differs from it in important details. It has a flat base, now broken off, which extended originally far beyond the sides. The sides expand to a plain rim. Just above the base we find eight holes disposed around the sides. The third one (Fig. 218) is virtually twice as wide as the other two. It has only one rounded hole and is made of greenish grey ware.

A vessel of peculiar shape is represented by Fig. 213. It is made of grey ware and its bottom had been repaired with bitumen. The rim is broken off. Two fragmentary projections on the shoulder are probably the remains of some sort of handle.

Fig. 215 shows a small and crude offering tray, probably a model, made of brown ware. It is rectangular in form and has a small ledge handle, vertically pierced projecting from one side.

Two elaborately decorated lids, the first examples of this class from Gawra, were unearthed in this level. The first one (Fig. 206) is hemispherical in shape and equipped with a disc handle. It is made of green ware, well fired, and is decorated with a composite incised design. The other specimen (Fig. 208) is of the flat type, with knob handle. Three moulded serpents are applied irregularly to the outer surface. The serpents bear circular incisions. The ware is reddish buff.

One curious anthropomorphic piece (Pl. LXXVI. 1) rounds out the material from this stratum. Shaped into a bowl with tripod base, it is made of buff ware fired at a medium temperature. In addition to the hands, the breasts, navel and pudendum are plainly indicated, the two latter by means of incisions and the others in appliqué work.

e. Stratum V (Figs. 147-61, 197, 199, 200, 219)

Contrasted with the abundant material from the preceding strata, the pottery remains of levels *V* to *I* are decidedly meager. Nothing else could be expected of course in view of the reduced occupational areas of these topmost strata. Where hitherto we have been able to

subject to analysis definite types and subtypes, we shall have to deal from now on almost entirely with isolated specimens.

To take first Pl. LXXI (Figs. 147-61), only one of the fifteen figures which it contains is duplicated in this stratum. As regards relationship with other occupations, some of the vessels show connections with the earlier levels, particularly Str. *VI*, while in several instances we seem to have unique pieces regardless of level. Attention may be called in passing to the presence of parallel pieces in Billa *IV*; but scarcity of material prevents a detailed investigation of such connections.

If general statements are at all permissible under the present circumstances, it is in order to point out that the proportion of handmade vessels is larger in Str. *V* than in any other Gawra occupation discussed in this book. The firing is lower than in Str. *VI* and no piece approaches vitrification. The surface was generally wet-smoothed; only one specimen shows a slip, of light green color (Fig. 155). Both incised and painted decorations are found occasionally, in addition to the moulded technique as exemplified in the serpent motive; such serpents in relief are found not only on the rim of a bowl (Fig. 149), but also on several fragments of large jars (cf. Pl. LXXVI. 12). Ribbing is applied in two instances (Figs. 147 and 160).

Figs. 147 exemplifies a ribbing technique which goes back as far as Str. *VIII*; but this precise form is not found elsewhere. Fig. 148 is handmade and its vertical stripes are painted in red. The shape of Fig. 149 recalls a type common in Str. *VI*; the snake decoration has been noted in the two preceding layers, but is applied in the present instance to a different type of vessel.

Though the cup illustrated as Fig. 150 is of simple shape, no other similar specimen has been found at Gawra. Fig. 151, on the other hand, was paralleled in Str. *VI*, except as to base (cf. Fig. 105).

Figs. 152 and 156 again hark back to the preceding level. The general form with high shoulder and tall neck is certainly repeated, though in the present instances the rims are plainer, while the concave base was not associated with this type in Str. *VI*. Fig. 154 is to all intents and purposes identical with the type represented by No. 125. Nos. 153 and 155 are confined to the present level, but they are paralleled in Billa *IV*. Fig. 157 has the same high shoulder and general form of body as Fig. 67 (Str. *VII*). Here, however, the resemblance ceases. The design, consisting of lined and cross-hatched triangles flanked by bands, is done in black paint. The oval body and narrow neck observed on Fig. 158

are features typical of Str. *VII*. Fig. 159 is the only example of cooking pot from Gawra. It is of coarse buff ware blackened by burning. Fig. 160 is also unique, for the form is new and the ribbing rougher than in the other cases. Fig. 161 is identical in both shape and ornamentation with a common jar of Str. *VI*.

Varia. Figs. 197 and 199 are pot stands, the latter resembling a type from Str. *VI* (cf. Fig. 198); the workmanship in the present pieces is superior and both rims are rolled. Fig. 197 seems to be without exact parallel.

Fig. 200 is a cult object of greater height than the corresponding examples from Str. *VI*, and with double-triangle opening. The offering tray given as Fig. 219 is curvilinear in form and consists of two compartments as against the rectangular piece from Str. *VIII* which was divided into three parts (cf. Fig. 217).

f. Stratum IV (Figs. 179-94, 201, 205, 212)

This level is unique from the standpoint of pottery in that it has a number of out-of-place specimens associated with it. For as we shall see, several vessels peculiar to Str. *VII* were found on the floor of R. 408; they are clearly intrusive. Conversely, under the floor of R. 409 and hence encroaching upon the stratum below, a group of large jars and several bowls used as lids were discovered, which cannot possibly be dissociated from Str. *IV*. This curious form of hide-and-seek will lose much of its mystery when the religious character of the little settlement has been taken into account. First, however, we shall turn to the normal representatives of the present occupation.

The pottery of this period is plainly of a marginal character, showing connection with both the preceding layers and the level above. Wares, firing, and treatment of surface are virtually the same as in Str. *V*. Several types of decoration may be distinguished. Incised designs are made up of filled triangles and herringbones. A snake in relief appears on a fragment of a large jar (Pl. LXXVI. 13); on the same piece may be seen thumb-nail indentations and this means of ornamentation is witnessed also on the incense burner (Fig. 205) and basket (Fig. 212). Painted designs are generally simple, taking the form of straight bands (Fig. 194) or transverse lines on rims of bowls. A varied combination of geometric patterns is presented on one sherd (Pl. LXXVI. 14). In each instance the color is brown, two shades of it being contrasted on the last-named piece.

The bowls find their closest parallels in Billa *IV*. Fig. 179 has a rounded base and wide ledge rim, while on Fig. 180 the sharp double carination is worthy of special notice. Figs. 182 and 183 have numerous counterparts in Billa *IV*, where the latter type is often decorated with transverse lines painted on the rim. Only fragments of such rims were found in the present occupation. Fig. 185, with its ribbed sides, has again parallels in the fourth stratum of Billa.

Fig. 181 was found by Mr. Bache during the fourth campaign. It came up in a well (see Pl. VIII. *a*), which accounts for the apparent stratigraphic confusion. Though the footed bowl of this particular type is not otherwise represented at Gawra, it may nevertheless be ascribed with confidence to the present level on account of the sherds from Str. *IV* with which this bowl was associated.

There are two main types of cup, the straight-sided and the bell-shaped. Examples of the former have rounded bases and either rolled rim (Fig. 186), reminiscent of Str. *VII*, or a straight rim (Fig. 184); a partial parallel to the latter type may be found in Str. *V* (cf. Fig. 151). The bell-shaped cups appear with indented bases, which are either offset from the body (Fig. 190) or extend to the level of carination (Fig. 187).

The globular pots have retained the popularity that was theirs in the preceding levels. Fig. 193 is practically identical with forms from Str. *VI*. The rim on No. 192 was found to be typical of Str. *VII*. Fig. 189 is notable chiefly for its sharply rounded shoulder. Fig. 188 is a crude handmade pot.

Attention should be drawn to the vertically pierced handles found in Fig. 191. While such handles occur also in Str. *VI*, this is the first large specimen in which they are featured. Several similar handles were observed on contemporary sherds, one of which bore traces of brown-painted decoration. Lastly, Fig. 194 displays a composite base in addition to the bands round the body, which are applied in brown paint.

Varia. This stratum produced three unique pieces of pottery. One is a handmade lamp of greenish grey ware with two legs on one side balancing with the base (Fig. 201). It was found directly under the floor of R. 409, together with a number of storage jars to be mentioned below. The second is a basket-shaped object of brown ware (Fig. 212 = Pl. XXIX. *b*), with three evenly spaced inner handles extending from the rim to the center of the base. It was found in the south corner of R. 409. The handles and the rim are decorated with rows of

impressions made apparently with thumb nails. Finally, we have a splendid incense burner (Fig. 205 = Pls. XXVIII. *a*. 4 and XXX), Made of grey ware fired at a medium temperature, it came up on the podium of R. 409, lying on its side and damaged somewhat by earth pressure. It consists really of three parts, a pot with everted rolled rim and rounded shoulder, decorated with three rows of thumb-nail markings; without base, it is joined onto a cup having four irregularly triangular openings spaced evenly round its sides; this in turn is set upon an inverted strainer whose wide rim lends itself to use as base for the joint structure. The ceremonial significance of the piece is emphasized by its position on the podium of the little cella (R. 409).

Out-of-place Material (Figs. 162-72). As has been indicated above, we have in this stratum two groups of displaced pottery remains. We shall see that they had not been left out of place accidentally. On the floor of R. 408 were found three chalices (cf. Fig. 163 and Pl. XXVIII. *b*. 1) and a cup with pointed base (*ibid.* No. 2), all of well fired grey ware. These objects were in fragments that seem to have been carefully gathered and placed side by side. It is scarcely necessary to point out that both the chalices and the cup go back to Str. VII, if not to Str. VIII-A. They represent not merely imitations of earlier wares, but actual remains of those levels, recovered somehow by the occupants of Str. IV and preserved for ceremonial purposes. This is an unusually valuable illustration of the archaizing tendencies followed in early religious practices.

As though in anticipation of this debt to antiquity the builders of the cella (R. 409) presented the level below with fifteen pots placed upright directly under the floor, against the foundations of the walls or in line with them; the lamp described above was found near one of these vessels. All jars were lidded with flat stones or bowls (cf. Figs. 164-65). The vessels had apparently been filled with liquids. The ware is grey or greenish grey, well fired. As may be seen from the several illustrated specimens (Figs. 166-72) the jars show a diversity of types. Of interest is the composite base (Fig. 170) noted already on an example from the stratum proper (Fig. 194), and known also from Billa IV. An interesting departure in decoration is furnished by bands projecting obliquely just below the neck and applied singly (Fig. 167) or in groups of three (Fig. 170). Otherwise, the decoration consists usually of simple incised lines. The beautifully formed pattern on Fig. 172 is a welcome exception.

g. Strata III-I (Figs. 173-78, 209)

The pottery of these three inextensive settlements at the top of the former Gawra cone is typologically uniform; it corresponds closely with the material from Billa *III*, the so-called Hurrian stratum.

Figs. 173 and 178 are footed goblets of greenish grey ware, wet-smoothed. These fabrics are as fine as the Billa analogues, but the present specimens happen to be undecorated; both were found in Str. *I*.

Figs. 174 and 177 are cups from Str. *III*; their relationship with the cups of Billa *III* is obvious. The painted decoration on the former piece is in dark brown, on the latter red. In both instances the design is confined to simple bands. The bowl illustrated as Fig. 175 is of buff ware (Str. *III*). Fig. 176 is a crudely made bowl of greenish grey ware, from Str. *III*, the only example of this group without definite Hurrian parallels.

Fig. 209 (Str. *III*) is of buff ware, wet-smoothed. It may represent the top of a censer.

3. TERRACOTTA OBJECTS

There is little need to dwell on the fact that remains of clay and similar earthy materials are among the archaeologist's most important and reliable sources.¹ Frequent references to such products are sufficient evidence of their original prominence as well as an indication of their value for the student of ancient times. Thus clay constituted the principal or sole material of the remains discussed in the two preceding chapters. The architects of Str. *VIII* had virtually no use for stone, and the builders of the succeeding occupations showed an unmistakable preference for walls of brick even though they made them repose upon foundations of rubble. The pottery of Gawra, in common with the fabrics of so many other sites of comparable antiquity, has proved to be the largest group of objects that have come down to us, an extensive if somewhat one-sided commentary on contemporary life and trends; it will be seen later on that the number of vessels other than earthenware is quite negligible. But the employment of clay was not restricted to the making of bricks and pottery. The material appears to have been indispensable also for the manufacture of such essentially unrelated objects as figurines, toys, weapons, and spindle parts. All these have been grouped together for a rapid survey in the present chapter. They are indeed a heterogeneous assortment, the various groups exhibiting only the superficial relationship that a common material is capable of imparting. On functional grounds we obtain two subdivisions: a. Terracotta Models, which have in the main some symbolic significance; b. Miscellaneous Clay Objects. In the first class we find figurines and other clay representations, substitutes for real beings or things, in the second actual objects. With the exception of an occasional borderline specimen, the two classes may be regarded as mutually exclusive, though considerably diversified within themselves.

¹ For a general discussion of the subject cf. E. Douglas Van Buren, *Clay Figurines of Babylonia and Assyria* (Yale Oriental Series—Researches—Vol. XVI), New Haven, 1930, and L. Legrain, *Terra-Cottas from Nippur* (University of Pennsylvania Museum—Babylonian Section—Vol. XVI), Philadelphia, 1930.

a. Terracotta Models

(Plates XXXII-XXXVI; LXXVII; LXXX. 3, 6)

The specimens grouped under this heading consist of human and animal figurines and of representations of such objects as chariots, wheels, and couches. The significance of such terracottas has been the subject of much discussion. Those who would hazard a definite opinion hold that the human and probably many of the animal figurines in question (including clay horns) reflect as a rule underlying religious ideas, to use the term in its broadest sense, the objects being commemorative propitiatory, or apotropaic in character. The same may apply, of course, to models of inanimate objects and to hybrid types such as, e. g., wheeled animals. But the possibility that models² of this kind may have served simply as toys cannot be ruled out altogether.

Human Figurines (Plates XXXII; XXXVI. 8). To take up specific instances, we shall turn first to the human figurines from Gawra. Not many of these have been unearthed, and there is no way of telling whether this scarcity is due to accidents of preservation or to some positive cause that has not become apparent as yet. Furthermore, only three of the seven specimens illustrated are accompanied by stratigraphic data, for reasons that will be made clear presently. In short, the available material will be of little independent value for cultural and chronological deductions.

With regard to the figures illustrated on Pl. XXXII, the sequence number of the layer in which No. 3 was discovered is uncertain and that of No. 2 not known at all. The latter piece is a trial-trench find from Square A 5; until that level has been reached in course of regular excavation we can say only that the figurine in question belongs to one of the early strata of Gawra and is a product of the painted pottery period. The piece is made of dark brown ware, poorly fired; its present height is 84 mm. The head and the right shoulder are missing, but the left arm comes around to the breast in a well formed curve, with open space between arm and body. The legs hang down from the knees

² By employing the term "model," even in its broadest sense, I am ignoring the strictures of de Genouillac, according to whom clay tools were actually in use in earliest times thus characterizing a "Terracotta Age" (*Telloh* I. 7). Though the nature of the originals, if any, of such objects as clay sickles may still be in doubt, there can be no question that our terracotta axe-head (Pl. LXXX. 6), coming as it does from Str. V, was a model and nothing else.

in two thick stumps. This figure belongs to the large and familiar group of fertility idols portrayed in the form of women holding their breasts.

The same general type is represented by No. 3, to judge from what little of the specimen has been preserved. The head and left arm are missing and the body is broken at the hips. The right arm is placed on the breast as in the preceding example, but the curve which it forms is wider this time, owing to the sloping shoulder. There is no open space between arm and body, in which respect this specimen has a parallel in a figurine from Str. *VII* (Pl. LXXVII. 6). Bands of brown paint round the shoulders and waist are the remaining traces of original decoration. The clay is buff and the firing fairly good; the present height is 70 mm. The date of the object is open to conjecture inasmuch as it was picked up on the surface near the base of the mound. In view of the just mentioned correspondence with a figurine from Str. *VII* we may tentatively assign the present piece to the same layer.

The two remaining figures on Pl. XXXII were discovered in Str. *VI*, both coming from Square M 6, three metres apart from each other. For products of a mature civilization they are curiously primitive, especially when contrasted with the beautifully finished marble mother goddesses and the animal amulets of contemporary date. In the absence of other criteria, haphazard workmanship is often regarded as evidence of very early date. In the present instances, however, the provenience is certain and these figurines are thus our only examples of this particular type from the beginning of Late Gawra, i. e., from the Early Dynastic period. Was their summary treatment the result of the apotropaic character of these specimens, or was some other factor responsible for what appears to be purposeful archaizing? At all events, the objects are remarkably crude.

No. 1 is a bell-shaped figure³ with pinched head in which only the beard and a pointed cap can be distinguished. This latter detail might be significant if it were not for its isolated occurrence. The arms are missing, but the figurine was legless from the start as is frequently the case with bell-shaped representations. The body is in the form of a flattened cylinder with a slightly broadened concave base. Faint incisions on the back may indicate a robe. The ware is buff, poorly fired, and the dimensions are 97 by 47 mm.

The last figure (No. 4) is of equally summary workmanship. It

³ For a discussion of bell-shaped figurines cf. Valentin Müller, *Plastik*, pp. 38 ff.

has pellet eyes flanking a pinched beak nose. The arms are broken and of the legs enough only is left to indicate that they had been crossed. Altogether the thing should not have been unsuccessful in warding off evil spirits. The ware is grey, well fired, and the height is 42 mm.

The fragment illustrated on Pl. XXXVI. 8 marks a departure from the ordinary Gawra examples of human figurines in that the piece was not made by hand and in the round, but was cast as a tongue relief. Though this object was picked up on the surface of the mound it furnishes in its workmanship and decoration (neckbands and bead necklace) a sufficiently close parallel to the Third Dynasty figurines to be assigned to Str. *IV*, which was contemporary with that dynasty as we shall see (cf. p. 183). All facial features have been obliterated, but both hands are still seen holding the breasts. The ware is buff, very well fired, and the present height is 46 mm.

From Str. *VII* comes the representation of a nude woman holding her breasts (Pl. LXXVII. 6) to which reference has already been made. The body is broken at the waist and the head is missing, but both hands have been preserved. Dabs of clay round the neck are obvious substitutes for a high necklace. This well fired piece is made of greyish buff ware and its present height is 53 mm.

In passing, attention should again be drawn to the marble figurines of mother goddesses which will be described with the amulets (p. 138).

Statuette (Pl. XXXIII). Of a type entirely different from the examples discussed so far is a terracotta statuette of dark brown clay, illustrated on Pl. XXXIII. It has been grouped with the other figurines on account of its material, but in this case the significance is not necessarily religious. In point of fact, the figure resembles in general appearance the stone statuettes of Sumerian rulers and it is not unlikely, therefore, that we have here the image of a king or chieftain rather than that of a god. Unfortunately the head is missing and the character of this piece is thus destined to remain the object of more or less felicitous speculation. If the ancient modeller who attempted to repair the break had been successful in his efforts there might have been no cause for the present doubts concerning the nature of the figure. The dowel hole which he drilled in the center of the broken surface is still there to testify to his good intentions, but the upper part must soon have broken loose again and it has not been recovered.

Some doubt must attach also to the stratigraphic attribution of this

object. It was dug up in the large well of Str. *VIII-B* (J 7), at a depth of 18.25 m., in association with typical pottery fragments of Str. *VI*. The precise date, however, of finds made under such circumstances is necessarily uncertain and we have no local parallels to form a basis for comparisons. The apparent dependence on stone prototypes and the possible influence of advanced Sumerian models constitute at best internal evidence of very doubtful nature. On these inadequate grounds the date of the statuette may be placed later than Str. *VI*, though not after Str. *IV*. The argument, however, is admittedly inconclusive and the problem must be left open for the time being.

The two illustrations of the statuette speak for themselves and few additional comments are required. The present height is 200 mm. and the dimensions of the base are 170 by 107 mm. A band 16 mm. in width frames the front and the sides of the figure at a height of 76 mm. from the base. The figure is nude and there is a vertical groove on the back to indicate the spinal column. The hands which are attached to the body are bent at the elbows and placed on the chest without touching each other. There is one plain bracelet on each wrist. The position of the hands is interesting in that it differs from the Sumerian representations, where one hand is placed in the palm of the other so regularly that minor variations in this respect may be employed as criteria for dating.⁴ The present attitude is unique as far as I have been able to ascertain.

Animal Figurines (Plates XXXIV. *a*, *b*, and *c*. 5-12; XXXVI. 2-7; LXXVII. 1-5 and 7-10). Terracotta figurines of animals appear to have been popular in all the settlements of Gawra and their abundance is in sharp contrast with the scarcity of human representations. As against a bare dozen specimens of the latter group some two hundred examples of animal models have been recovered thus far. This unbalanced proportion is maintained throughout the levels under discussion and it cannot therefore be ascribed to mere accidents of discovery or preservation. It would appear that the production of human figures, for whether or not these stood for idols their forms were distinctly human, was subject to taboos that were absent or relaxed in the case of animal types. We may have here an indirect confirmation of the view that the former group at least possessed an underlying religious significance. Another reason for the preponderance of animal figures may

⁴ Cf. D. Opitz, "Die Händehaltung der menschlichen Figuren in der babylonischen Kunst des III. Jahrtausends," *AfO.* VI. 59 ff.

have been their employment as toys, though how often that was done and what proportion of the total may have figured in religious and magical practices we have at present no means of deciding.

All the animal figures to be described here are of solid material throughout and are modelled by hand.⁵ As a rule they are well baked, the commonest wares being grey, buff, and brown. Painted ornamentation is extremely rare (cf. Pl. LXXVII. 5, 7), to judge from the present appearance of the figures; very likely these pieces were seldom decorated from the start, but in some instances the paint may have worn off. What incised decoration there appears on our figurines is manifestly skeuomorphic in character. The modelling is mostly indifferent, little effort having been made to produce more than a general likeness of the animal in question; there are, however, a few delightful departures from this norm, as we shall see. On the whole the objects admit of no more than a rough identification, especially since only a small number of them have come down to us intact. These circumstances should be borne in mind while we survey the available material with the aid of a few representative illustrations.

The animal that seems to have been modelled most frequently is the sheep. Figurines of this type are found as late as Str. *III*, the latest layer to have yielded more than one animal model. But their greatest vogue was in Str. *VIII*, from which come the two examples illustrated on Pl. XXXIV. *c.* Nos. 8 (= Pl. LXXVII. 9) and 10. The former piece, a headless figurine of dark brown ware, is remarkable chiefly for the large pellets of clay which are grouped in a solid row down the back of the object, an apparent attempt to represent in this manner thick tufts of curled wool. The other is a slightly damaged piece of dark grey ware. No. 9 of the same plate (= Pl. LXXVII. 3) shows a squat figure of buff ware, which resembles the other two except that it had once been equipped with a pair of stout horns which must have been meant to mark this specimen as a ram. In all three instances the legs are treated rather summarily, being indicated by very short stumps of clay with no further attempt at individualization. But the terracotta work of this period must not be judged entirely in the light of these crude methods. That the modeller of Str. *VIII* was capable of turning out figurines fully as good in their naturalistic rendering of the chosen prototype as were the best efforts of the contemporary seal-cutter may be seen from the splendid bull's head illustrated *ibid.* No. 6 (= Pl.

⁵ According to Mr. Bache, one figurine hollow inside was found in Str. X.

LXXVII. 8). The verisimilitude of expression and the firmness of outline achieved in this broken bit of grey clay serve only to give added point to the excavators' regrets that these simple gems of the potter's art reach us all too often in a fragmentary condition.

Virtually the same animals confront us in Str. *VII*. The only newcomer is the dog, the forerunner of a family that will become more popular in the next occupation. Out of regard for proper chronological sequence we may list at this point the jar handle illustrated on Pl. LXXVII. 7. It is in the form of an animal head with long neck and is made of greenish grey ware, well fired, covered with an orange slip and decorated with dabs of brown paint. Among the zoomorphic details found on the pottery from this stratum there is also a spout in the shape of a ram's head; similar spouts are known from Str. *VI* (Pl. XXXVI. 3 and 6) and a fine example of one of these is seen on the "fountain-head" vase (Pl. LXX. 138). In all likelihood the fabrics in question are to be regarded as cult vessels, which would account for the introduction of modelled animal figures into this group. While we are on this subject, attention should be called to the practice of decorating the rims and outer surfaces of vessels with serpents in relief; it is attested as early as Str. *VII* and the available specimens carry us as late as Str. *IV* (cf. Pl. LXXVI. 7, 12-13); scorpions similarly applied occur on sherds from Str. *VII* (*ibid.* Fig. 11) and Str. *IV*.

To return to the individual animal figurines, we find that Str. *VI* has made several notable additions to the repertoire inherited from the preceding occupations. Chief among these are draught animals, or rather new types of these, if it should be argued that the figurines of bulls discovered in the lower levels might have represented beasts employed for similar purposes. In any case, the newcomers are not recruited from among the bovids; they are plainly modelled after members of the equine family.

But before we discuss the terracotta representations of horses and become involved in the problem of the antiquity of this animal in Mesopotamia, it is advisable to consider another set of figurines peculiarly relevant in this connection. I am referring to the curious class of wheeled animal figures of which we have three specimens from Gawra *VI*. One of these is illustrated on Pl. XXXV. *a*. 1. In place of legs this figurine has two axle-holes and there is a loop in front for an imitation leading-halter. Incidentally, this object is of buff ware, well baked. Although it was found in our first trial trench, subsequent

excavations proved that particular area to belong to Str. *VI*; it is not surprising therefore that two almost identical figurines, but not as well preserved, were brought up from the floor of R. 620.

Just what animal this object was supposed to represent is not entirely clear. The prototype seems to have been a dog, not unlike the figure shown on Pl. XXXIV. *c.* 7 (= Pl. LXXVII. 4), which comes from Str. *VI*. But the employment of dogs as draught animals in the latitude of Gawra can hardly be assumed on the sole basis of such fragile evidence. To be sure, the realm of toys for which this piece was apparently intended has a time-honored license for fantastic combinations. A few other models of this kind, however, are remarkably faithful copies of actual objects, as may be seen from some of the reproductions on the same plate. It would seem therefore that our wheeled figurine represents some animal really used at Gawra for traction purposes, unless of course the practice of harnessing dogs had come in with the foreign tented chariot, a copy of which (XXXV. *a.* 2) was found near the model under discussion. At all events, the animal that has given us so much trouble did not belong to the bovine family.

We are now prepared to consider a group of more orthodox, but no less troublesome figurines. It consists of nineteen models of what seems to be a single animal family, and it is represented by five of our illustrations (Pls. XXXIV. *c.* 5, 12; XXXVI. 4; LXXVII. 1-2). Among the fragments that may be added to this group is a comparatively large head shown on Pl. XXXIV. *b*. It is worthy of notice that all of these specimens date from Str. *VI*. They have no parallels in the preceding levels, but the absence of corresponding terracottas in the occupations later than Str. *VI* may be accidental inasmuch as the later deposits failed to furnish many distinctive figurines of any kind. The pieces under consideration are well fired, the ware being either grey or buff. With rare exceptions the legs and tail are now treated individually, not summarily as was the case in Str. *VIII*, the one disadvantage of the new style being that its products were manifestly more liable to breakage.

In referring to the present figurines as horses I have committed myself to a definite position with regard to a highly controversial problem in Mesopotamian archaeology. But our material does not admit of dodging the issue. If the animals are to be identified at all we cannot but regard them as asses, horses, or some cross between these two species. Now unless we are satisfied with the first identification, we

must be prepared to disregard a view generally held until the last few years, according to which the horse was unknown in Mesopotamia before the beginning of the second millennium, or at best the end of the third. Since the matter has an obvious bearing on the history of civilization, no new evidence that serves to cast reasonable doubt on the subject can be dismissed without careful study. Such evidence has been trickling in of late from several Sumerian sites, Ur and Khafaje being the ring-leaders in a move calculated to disturb the archaeologists' peace of mind.⁶ The claims of the former site have been shelved temporarily on the ground that the suspect animal representations from the Ur cemeteries need imply no more than the presence of the onager, or the Asiatic wild ass.⁷ Khafaje, however, would not be pacified by the same means, since the painting on a clay pot from that site pictures in all probability a horse or a mule.⁸ The precise variety of the given species is of course of no immediate moment. What matters primarily is whether or not the horse was present in the country at the time of the objects in question, i. e., the end of the Jemdet Nasr and the beginning of the Early Dynastic periods. That some sub-species of ass was known by then is no longer a matter of dispute.

To return after this digression to the previously indicated group of terracottas from Gawra VI, a glance at the five illustrations listed above will show that the mane was in each individual instance the important feature that the modeller was at pains to emphasize. It is clear enough that we are not dealing here with members of the leonine family. Moreover, we have not found thus far among our figurines reproductions of other than domestic animals and it is reasonable to suppose that the present and rather extensive group, which might be increased by the addition of similar specimens from Billa V, would conform to this norm. But a general identification of the genus in question need not proceed from such purely negative premises. It seems plain that we are confronted with models of one or more species of equids, to use this term in its broadest sense, and our primary concern is only whether these figurines represent asses alone or also horses and mules. Specifically, we wish to determine, if possible, whether any of the terra-

⁶ Cf. also the two terracotta horses from Kish-A, Mackay, *Sum. Pal.* Pl. xlvi. 11, and the fine head, *Telloh* I. Pl. 54. 2 ("peut-être le cheval," de Genouillac, *ibid.* p. 8).

⁷ Cf. Woolley, *UC.* pp. 270 ff., and now also Max Hilzheimer, "The Evolution of the Domestic Horse," *Antiquity* IX. 133 ff.

⁸ For the Khafaje vase see the *British Museum Quarterly* VIII. 1. 39 and Fig. 1, and cf. Childe, *New Light on the Most Ancient East*, 160 f.

cottas under discussion were meant to portray horses. For since the early presence of the ass has already been established, the co-existence of the horse is now the one remaining historical problem in this connection. The type or types of the resulting cross-breeds and further differentiations within the species are details far too specialized for a comprehensive archaeological account; our clay figurines, furthermore, cannot be considered a sufficiently secure basis for more precise differentiations.

Bearing these considerations in mind we turn to examine the individual illustrations. Pl. XXXIV. *c. 5* (specimen *a*) shows a model of well baked buff ware representing an animal with slender body, long legs and neck, and a head with conspicuously small ears. No. 12 on the same plate (specimen *b*) is similar in firing and material but different in shape. The body is stouter, the legs short, and the mane appears to be bushy; other details can no longer be distinguished. In Pl. XXXVI. 4 (specimen *c*) we have a figurine of brown ware which plainly shows a neighing animal. Again the ears are small, but the long neck surmounts this time a comparatively small back; the legs are unfortunately broken. The dilated nostrils were formed by pinching the tip of the head, flattening the clay, and then bringing the ends together so that the whole resembles a keyhole pattern. Pl. LXXVII. 1 (specimen *d*) shows once more a slender-bodied figure of greenish grey ware, medium in height, and with bushy mane and small ears. Finally, Fig. 2 of this plate (specimen *e*) introduces a variant type, the animal resembling specimen *b* in build, but portrayed with drooping head; this piece is made of buff ware, well fired. The fragment shown on Pl. XXXIV. *b* may be added as specimen *f*. We see here a sensitive animal head of greenish grey ware, with dilated nostrils and long neck, incised lines representing the hair.

What is abundantly clear from these illustrations is the fact that the modellers succeeded in bringing out a good deal of detail and in animating the figurines with a variety of attitudes and postures. It is therefore reasonable to regard these characterizations as trustworthy. For this reason I would see in our terracottas models of at least two species of equids. The slender-bodied specimens *a* and *d* may be contrasted with the squat type represented by *b* and *e*. The long neck would place specimen *c* in the first group, the ears being also small in all three instances, and the fine head (*f*) is also to be assigned to the same class. The opinion that this class represents some definite type of

horse is not likely, I feel, to expose one to an accusation of undue credulity; the identification of the breed is immaterial for our present purposes and perhaps not possible on present evidence. The other group is not quite so self-evident. We may have here the onager or one of the crosses between horse and ass, or perhaps both onager (*e*) and mule (*b*). But it is not our task further to pursue this subject. I believe that our material has served to establish the presence of the horse at Gawra *VI* (and at Billa *V*), as early as the beginning of the third millennium. It goes without saying that the animal must have been known at the same time in the south. Our results tend thus to confirm the identification of the animals from Khafaje, while not interfering of course with the view of some experts who find the onager portrayed on certain monuments from Ur. Conversely, however, the material from Ur alone will not suffice to uphold the tradition that the horse was unknown to Mesopotamia before the end of the third millennium.

The remaining terracottas of animals will not detain us long. Reference has already been made to the figure on Pl. XXXIV. *c.* 7 (= LXXVII. 4) which to all appearances is that of a dog. It is well fired, as is the case with nearly all animal figurines from Str. *VI*, and made of grey ware. That the appealing little figure of dark grey ware illustrated on Pl. XXXVI. 5 pictures a dog in a somewhat contemplative attitude is made plain enough by the characteristically curled tail. The figurine shown on Pl. XXXIV. *c.* 11 (Str. *VI*; buff ware) seems to represent a goat whose hair has been indicated by irregular incised markings. On Pl. XXXVI. 2 we have a puzzling animal (perhaps a gazelle?) with unusually long neck, straight back, and legs that seem to have been originally of considerable length. The figurine is unfortunately damaged, its ears and tail having proved particularly vulnerable. This specimen is of greenish grey ware and comes from Str. *VI*.

From Str. *V*. comes a very interesting representation of what is evidently a rolled up hedgehog (Pl. XXXIV. *a*).⁹ The back of this figurine is damaged and covered with bitumen, but the front is intact showing clearly the legs and the exposed part of the head. Hair and spines are indicated by a multitude of incised dots spaced very closely. The ware is grey and the surface is wet-smoothed. The object measures

⁹ For this identification I am indebted to Dr. R. Campbell Thompson.

89 mm. in length and 68 mm. in height. It has an interesting analogue in Susa.¹⁰

Str. IV yielded a painted figurine of a bull made of greenish grey ware (Pl. LXXVII. 5), the color of the paint being reddish brown. It is one of the largest animal models from Gawra, in reasonably good preservation; its present length is 87 mm. and the height is 75 mm.

To sum up the entire group, we have seen that practically all the animals reproduced in clay belong to the domestic variety: sheep, goats, bulls, dogs, and equids. It will be shown in a later chapter that the contemporary seal-cutters, especially those of Gawra VIII, were not similarly restricted in their choice of animal motives; they were frequently concerned with such beasts as lions, gazelles, wild boars, and the like. These differences in repertoire are surely not accidental. For while both groups of objects may have underlying religious elements in common, the glyptic reflects largely mythological concepts whereas such terracottas as have a religious significance pertain to requirements of applied and practical religion.

Representations of animals in stone will be considered in connection with amulets and pendants.

Horns. Of the seven examples of clay models of horns discovered at Gawra, four were found in Str. VIII, two in Str. VII, and one in Str. VI. Most significant perhaps is the specimen unearthed in the course of our first campaign. It came up in R. 802, just in front of the entrance leading to R. 801, and its occurrence¹¹ in the Eastern Temple is thus an indication of the ritual character of this type of objects. Of particular interest in this perfectly preserved specimen are two holes, 16 mm. deep, spaced closely one above the other on one of the narrow sides of the object and near its base; they were evidently meant for dowel pins by which the horns were attached to the wall. Made of reddish clay, this piece is 210 mm. in length and the base has a width of 225 mm.

The remaining examples of this group were found loose in the soil of the three occupations to which they belong, none having been found intact. The latest of these (from Str. VI) is illustrated on Pl. LXXX. 3. It is made of brown ware, has a base diameter of 117 mm. and its present height is 170 mm.

Vehicles (Pls. XXXIV. c. 1-4; XXXV. a. 2; XXXVI. 1; LXXVIII.

¹⁰ For the Susa "hérisson" cf. MDEP. VII. Pl. xxiii. The correspondence is remote, however, owing to differences in material (the Susa example is of stone) and age.

¹¹ Cf. AASOR. IX. Fig. 89.

1-3). Although Gawra has thus far furnished us with only eighteen clay models of vehicles, half of them too fragmentary for reconstruction, this small group includes several distinct types and covers the six successive occupations from Str. *VIII* to Str. *III*. It is worth noting that all these terracottas are made of greenish grey ware, fired at moderately high temperatures.

The commonest chariot appears to have been of the two-wheeled type. It is attested as early as Str. *VIII* and as late as Str. *IV*, the most recent example showing the advantages of prolonged experimentation that resulted in both mechanical and formal improvements. The oldest specimen in this group (Str. *VIII*) is illustrated on Pl. XXXIV. c. 1 (= Pl. LXXVIII. 2). The body is open to the front, but has a parapet at the back behind which there is a step intended perhaps for a warrior rather than the driver. The pole was not attached to a special shaft but was inserted into the floor of the cart just off the front edge, a hole having been provided there for that purpose pointing downwards without going through all the way. The axle-hole is at the back, directly under the parapet.

In Str. *VII* the axle-hole is still found in the same rather awkward position. High backs continue in vogue, with steps behind them (Pl. XXXVI. 1) as in the previous example, or without such additions (Pl. XXXIV. c. 4). The extant specimens do not indicate the precise manner in which the pole was attached to the body, but an extension in front of the last-named specimen may have contained originally an opening to take the pole. It is likely, at any rate, that the rigid and unpractical joint required in Str. *VIII* has been abandoned by now in favor of a freer arrangement.

The next specimen to be discussed (Pl. XXXIV. c. 2, = Pl. LXXVIII. 1) comes from Str. *IV*, the available examples from the intermediate layers being too incomplete for detailed study. As was indicated above, the present model reflects notable improvements as compared with the prototypes from the earlier levels. Mechanically the chariot gained no little in balance by having its axle-hole moved toward the center. A special driver's stand is now provided inside and the back step has been given up. A high curved front, equipped with a pole-hole, and a comparatively low back with gracefully flaring wings impart to this vehicle an air of elegance. The actual objects may well have been even more decorative than their terracotta models.

In addition to the two-wheelers we have also examples of the four-

wheeled group, which point to two different types of vehicles. One represents a plain long wagon with slightly raised front, but otherwise almost flat, as may be seen from the illustration on Pl. XXXIV. *c.* 3 (= Pl. LXXVIII. 3). This particular specimen comes from Str. *VIII*, but the type continues unchanged in Str. *VI*; it was probably best suited for agricultural purposes.

The other type is of unusual historical and cultural interest. As the illustration on Pl. XXXV. *a.* 2 clearly shows, we have here the tented or covered wagon (the wheels were found separately). The peculiar importance of the present object is due mainly to the fact that it admits of no possible doubt in regard to either function or date. That it really represents a vehicle, which fact has been doubted in the case of a roughly analogous find,¹² is made abundantly clear by the two axle-holes and the other two holes in front which obviously served to take the pole. And in regard to date, the present model, although a trial trench find, is associated definitely with Str. *VI* on account of both the level at which it was found and the entirely unambiguous evidence of the accompanying finds. Its period then is Early Copper, or the beginning of the third millennium, and the date of several parallel but unstratified finds from other regions may have to be moved up accordingly. In any case, this type of chariot was known at Gawra before the end of the Early Dynastic period and, since it may safely be regarded as imported, its ultimate origin must lie still further back. The value of the present specimen as a witness of foreign relations will be considered at a later stage of this study.

Little space need be devoted to descriptive remarks. The original of this model was apparently open in front as well as in the back except for low protective ledges at both ends. The covering consisted of two curved poles attached at both ends to the framework of the wagon and joined together by means of three stout boards. The resulting rectangles were then filled in with wicker work (or possibly woven material) indicated on our model by criss-cross incisions, this incidental decoration of the object being thus strictly skeuomorphic.

Wheels (Pl. LXXVIII. 5-8). Models of wheels were found in varying quantities in all the stratigraphically established occupations of Gawra, except Str. *I*. The actual figures for the lower layers are not without interest. As against fourteen examples from Str. *VIII* and

¹² From Ul (not *Ulski*, which is the Slavonic adjectival form), in Transcaucasia, cf. Mackay, *M-D.* II. 555.

twenty-two from Str. *VII* we have no less than sixty-three from Str. *VI*; at the same time the number of chariot models is larger, e. g., in the case of Str. *VII* (six specimens) than in Str. *VI* (five). It would seem thus that the number of wheel models preserved affords a truer picture of frequency of the class of objects in question than can be obtained on the basis of terracotta chariots alone, the former having been the commoner article and liable therefore to be discarded or abandoned with less compunction. In other words, chariots were still comparatively rare in Str. *VIII*, but gradually gained in popularity until they became typical of the civilization represented by Str. *VI*, this marked increase in the use of vehicles reflecting no doubt the profound changes in the tempo of daily life that came in the wake of an improved metal technique. On the other hand, the decrease in the occurrence of clay wheels above Str. *VI* is merely incidental to the progressive shrinkage of occupational areas that attended the upper levels of our site, a condition that we have had occasion to point out in several previous instances.

For the most part our pottery wheels are plain in the sense that they show no skeuomorphic decoration which might help to explain their construction. Except for the axle-hole the wheels are solid disks. The hub forms frequently an extensive projection and is then raised on both sides. Examples of such wheels are illustrated on Pl. LXXVIII. 6 and 8. Both pieces are from Str. *III* and are made of greenish grey ware; the diameter of the former is 81 mm. and that of the latter specimen 56 mm. Altogether there is considerable diversity as to size, one specimen from Str. *V* (not illustrated) having a diameter of 120 mm. and an axle-hole diameter of 10 mm., while the total length of the hub is 68 mm.

Of greater interest are the two incised models illustrated on Pl. LXXVIII. 5 and 7. Fig. 5 is made of red clay and comes from Str. *V*; its diameter is 82 mm. The incised markings form a rhomboidal figure which may represent perhaps some similarly shaped addition to the original object, intended for reinforcement. It is possible also that the figure is not skeuomorphic at all, but simply and rather ineffectively decorative. That the elaborate incised pattern on Fig. 7 is purely ornamental goes without saying. The rims of both the hub and the wheel are decorated with wedge-shaped incisions closely spaced, while the remaining surface is given over to a large ten-pointed star. The present specimen has the same diameter as No. 5 and also comes from Str. *V*.

Other Models (Plates XXXV. b; LXXVIII. 4; LXXX. 6). The

couch illustrated on Pl. XXXV. *b* is of greenish grey ware, well baked; it measures 129 mm. in length, is 42 mm. high (two legs are missing), and its width is 79 mm. It was discovered next to the model of the covered wagon (see above) and belongs therefore to Str. *VI*. The decoration is in relief and consists of nine panels filled with herringbone patterns, except for the two central ones which contain criss-cross designs. The panels are enclosed lengthwise by two straight strips of clay and the entire rectangle is bordered by a continuous zigzag design. This ornamentation is plainly in imitation of wicker work.

The object illustrated on Pl. LXXVIII. 4 is made of dark grey ware and has a diameter of 40 mm. and a thickness of 11 mm.; it comes from Str. *III*. Its shape is that of a convex disk with a depression in the center. A roughly serrated edge lends this circular piece the appearance of a cogged wheel. But that this specimen had nothing to do with vehicles is clear from the fact that the central hole is missing, since the indentation which seems to take its place was not followed through. We have here doubtless an incomplete model of a drum, the curled edge completing a fairly realistic picture of leather fastened round a circular frame.¹³

The model pottery axe-head illustrated on Pl. LXXX. 6 is interesting chiefly because no corresponding object of metal has been preserved at Gawra. The copper axe-head from Gawra *VI* (cf. Pl. XLVIII. 3) has an entirely different shape. The present piece is of grey ware, has a length of 58 mm., and comes from Str. *V*.

b. Miscellaneous Clay Objects

(Plates XXXVII; LXXVIII. 9-14; LXXIX; LXXX. 1-2, 4-5)

Under this general heading we have grouped a number of heterogeneous terracottas. Some of these are available in a large number of examples, others form smaller groups, and in several instances we are confronted with isolated specimens. As indicated above, the present assortment owes its common classification to the external unity resulting from the use of the same material, and further to the basic functional feature which separates the class as a whole from the clay objects considered thus far. Hitherto we have discussed models substituted for the real beings or things; this time we are concerned with specimens designed for direct use.

¹³ For models of drums cf. Van Buren, *op. cit.* 269.

Spindle Whorls (Pls. XXXVII. c. 1-8; LXXVIII. 9-14). The considerable number of spindle whorls found at Gawra testifies to a long-established popularity of the textile arts. It is of interest to note that the comparatively short-lived and unsubstantial Str. VII is represented by about 150 catalogued specimens, or as many as we have from the far more extensive Str. VIII. It would appear that home industries such as weaving were carried on more intensively in Str. VII than in the preceding occupation, which was primarily an acropolis, as we have seen. In Str. VI the number of noteworthy specimens is reduced to about 100, but this drop is compensated for by a marked increase in certain related types of implements such as spools and bobbins, which will be discussed presently.

All the Gawra whorls have a single hole in the middle. Types with two and three holes¹⁴ are unknown, nor do we possess any specimens with grooves around the edge. The ware is usually grey or buff. The whorls vary a good deal as to size, ranging from 24 mm. to 45 mm. in diameter; the width of the hole may be anywhere between 4 mm. and 12 mm.

In regard to shape, there are two main types of whorls which occur with practically equal frequency. One is characterized by a flat base and conoid top with straight or gently concave sides (cf. Pl. LXXVIII. 9, 11, 12, 14); the other is bi-convex (*ibid.* 10, 13). Many of the specimens are ornamented, but there is little variety in the decorative motives employed. The commonest ornament yields a scalloped edge (Pl. XXXVII. c. 1 — Str. VIII; 4 — Str. III; 5 — Str. VIII; 8 = Pl. LXXVIII. 9 — Str. VII; Pl. LXXVIII. 11 — Str. VIII; *ibid.* Fig. 13 — Str. III). Less widespread is the application of punched holes in an irregular arrangement (Pl. XXXVII. c. 7 = Pl. LXXVIII. 10 — Str. VI).

Spools and Bobbins (Pls. XXXVII. c. 9-14; LXXIX, except Fig. 10; LXXX. 1, 2). The objects of this group are nearly always oblong and they are provided with shallow depressions round the middle which may range in width from a narrow groove, to a broad channel extending over more than half of the specimen in question. As to the precise function of many of the pieces in the present group we cannot be absolutely certain. It is likely enough that we are dealing with parts used in weaving or spinning. But how were they employed? They are too light for loom weights in the proper sense of the term, and the

¹⁴ An account of whorls with two and three holes in the middle is given by Mackay, *M-D.* II. 468 f.

central grooves are not broad enough for spools. Before we continue, however, it will be useful to disregard for the moment the question of function and state the facts concerning shape, size, and distribution.

All the specimens of this group have two symmetrical ends or heads which are separated from each other by one central channel. These heads are generally conical (cf. Pl. LXXIX. 1-3), sometimes spherical (*ibid.* 4, 6), and occasionally even rectangular (13). There are various intermediate types, but freak pieces (cf. Pl. LXXX. 1) are rare. The object as a whole has most frequently a rounded appearance (cf. Pl. XXXVII. c. 10, 12, 14); but flattened pieces are not uncommon (*ibid.* 11, 13, and of course the rectangular specimen illustrated as No. 9). The tips are in the main either pointed or rounded; less frequently they are flat (e. g., Pl. LXXXIX. 7, 9). In isolated instances we find the tips notched (*ibid.* Fig. 15).

The ware is buff or grey, almost invariably well fired. As regards size there is more than the usual degree of variation. Thus the length may be as low as 37 mm. (Pl. LXXX. 2); or, to take a piece that is more typical as to shape, 42 mm. (Pl. LXXIX. 12). Then again we have examples that attain a length of 80 mm. (Fig. 8); the average is between 65 and 70 mm. The width varies from 21 mm. (Fig. 9) to as much as 63 mm. (Pl. LXXX. 1).

From the standpoint of relative distribution we have interesting data from the three most extensive, and therefore significant, occupations, viz., Gawra *VIII*—*VI*. Of the hundreds of examples produced by these layers fully two-thirds were unearthed in Str. *VI*. This is in marked contrast to the relative frequency of the whorls which were more numerous, as we have just seen, in either of the two older strata than they were in Str. *VI*.

Perhaps the most striking feature about the present group of terracottas is the marking found on our objects in a considerable number of instances. What was its purpose? Drill holes applied in pairs (Pl. LXXIX. 11—Str. *VIII*; 14—Str. *V*), or in two groups of three each (*ibid.* 1—Str. *VI*) could be regarded as purely decorative. The same might also be said of such motives as crosses (*ibid.* 5—Str. *VIII*; 8—Str. *IV*), barbs (*ibid.* 4—Str. *III*; 7—Str. *VIII*), or the plant (?) motive (*ibid.* 9—Str. *VI*). But no such simple explanation will satisfy in the case of Figs. 2 and 3 of the same plate (both from Str. *VI*). Here the marks are formed by deep strokes arranged into seemingly meaningless patterns, not unlike signs in a complicated script. To be sure, Gawra *VI* is not too early a period from which some evidence

of writing might be expected. But we should have to assume in this case the presence of a new kind of script, an alarming view indeed and scarcely warranted by the occurrence of a few curiously marked terracottas. Since the markings have to be accounted for, however, we may be excused for suspecting in them some practical purpose now that they have been ruled out as mere decorative elements. Could they have been meant as a means of identification?

This reintroduces the problem of the functional character of our objects. It is clear enough that they were used in connection with thread, which was either wound around or else held down by them. Now specimens with ample channels, suitable for holding an appreciable quantity of thread, can be readily classed as spools. The first two figures on Pl. LXXX represent probably nothing else than that. But where the grooves are narrow (cf. Pl. LXXIX. 11, 12) and apparently intended for individual threads, we are probably dealing with bobbins. The markings upon these would then have helped to identify the individual threads which they held down at a slight tension. The bobbins with wider grooves were perhaps employed in weaving multi-colored materials. In passing, attention should be called to the fact that in Str. VI there is to be noted an unusual abundance of copper needles (cf. p. 114) as well as the altogether disproportionate increase in the use of bobbins. It would follow that the finer textile arts flourished at Gawra during the Early Dynastic period, and that related industries were stimulated thereby to unprecedented activity.

Sling Pellets. To turn now to less peaceful pursuits, the Gawra levels excavated thus far, especially the lower ones, produced a very large number of sling pellets of clay. Like their counterparts of stone, these pieces are virtually ubiquitous. The largest number, however, was discovered in R. 810, in the central storage compound of VIII-A; no less than 460 specimens were brought up from this narrow chamber. They are almost invariably ovoid, average 55 mm. in length and 28 mm. in diameter, and are made of dark brown clay, poorly fired.

The curious specimen illustrated on Pl. LXXIX. 10 resembles the sling pellets in size and shape, except that one end is pinched and drawn out. It is decorated with the impression of a stamp seal showing an animal and three fill-ups. The specimen was found in a trial trench at the level of Str. VIII, the style of the seal impression confirming this ascription.

Mosaic (?) Bricks. In R. 812-A, or immediately to the west of the pellet arsenal (R. 810), another large collection of objects was re-

covered, which are identical in shape, but this time of uncertain use. A group of 148 miniature bricks lay heaped up in the middle of the room together with a profusion of other unrelated objects. They are of dark brown clay, indifferently fired, and they average 52 by 27 by 12 mm. in size. The conflagration that swept the whole settlement had made a virtually solid mass of the fallen walls and the stored contents of the room, and there was nothing about the position of the small bricks to indicate their original use. Perhaps they formed part of some mosaic inlay. None of the specimens showed any trace of applied paint.

Pottery Smoothers (Pl. XXXI. *a*). These implements are distributed fairly evenly throughout the strata, and while they occur also in stone (*ibid.* No. 1), and bone, the more common material is pottery. In a number of cases they are perforated for suspension.

The specimen illustrated on Pl. XXXI. *a*. 2 (Str. *VIII*) is of buff clay and measures 93 by 19 mm. Another piece (*ibid.* No. 3 — Str. *VIII*) is of similar ware, the measurements being 57 by 20 mm.

Nails and Cones. Pottery nails, both curved and straight, were found on the surface and in the pre-stratified sections of the trial trenches. They correspond exactly to the objects of this kind found in the archaic levels from southern sites. A full description must await the results of further excavations at Gawra.

To the same as yet unstratified deposits belong pottery cones, some of which are painted. A typical specimen is illustrated on Pl. LXXV. 210. It measures 64 mm. in length, is covered with a brown slip, and the decoration consists of four red bands. Do we have here a wall peg or a pot stand?

Stamps and Moulds. The two objects illustrated on Pl. XXXVII. *b* (the illustrations show both the bases = A, and the side views = B) were found in R. 609. No. 1 may be described as stalk-shaped, 2 as pyramidal. Both pieces are perforated near the top for suspension. The former is 77 mm. high with a base 33 mm. square, while the other measures 52 mm. in height and has a base 45 mm. square. The well fired ware is grey in color.

Straight grooves, about 1 mm. deep, cut the stamping surface or base into small blocks with square ends. These blocks are arranged in simple rows in No. 1, but in No. 2 they form regular concentric squares. The substance to which these stamps were applied cannot be indicated with certainty.

Another stamp from the same stratum is illustrated in *AASOR*. IX, p. 90, Fig. 125. It is stud-shaped, and the boss is perforated. The rectangular base measures 54 by 45 mm., and the pattern consists of three concentric rectangles. Both the shape and design recall an Indus Valley seal.¹⁵ It is probable that we are dealing in this instance with a simple cake mould.

Hemiovoids (cf. Pl. LXXX. 5). The illustrated specimen is one of four objects of this kind which are evenly divided between Str. VI and Str. V. In the present example the ware is grey and undecorated base measures 97 by 34 by 32 mm. The top may be described as hemiovoid¹⁶ (rather than scaraboid) in shape. The object is bored through lengthwise. Its design, consisting of two crossed diagonal lines with an elliptical figure in the middle, is typical of the whole group. The use of these objects is problematical.

Gaming Pieces. By far the most interesting object of this class is the die illustrated on Pl. XXXVII. *a*. It was found (the illustration gives two views showing all six sides) in R. 620 and is thus the oldest definitely datable specimen of this shape (roughly cubical). The measurements are 24 by 23 by 20 mm. The ware is buff and extremely well fired. The edges show considerable wear.

The points are arranged exactly as on modern dice except that 3 is triangular and not diagonal. Another item of difference is that the points on two opposite sides do not add up regularly to seven. Here 2 is opposite 3, 4 opposite 5, and 6 is opposed by 1.

There is a close and unmistakable relationship between the Gawra piece and the dice found at Mohenjo-daro.¹⁷ Shape, material, color, and the disposition of the points, are all identical. Even the failure of the points on opposite sides to add up to seven is paralleled in Mohenjo-daro. What is more, on the latter site the order of the opposite points is similar to that on the Gawra specimen, in that 1 faces 2, and so on; in other words, we find a consecutive order in both cases, the sole difference being that on the Indian pieces 1 is the starting point, not 2 as at Gawra.

The other clay gaming pieces from Gawra (not illustrated) are simple disks varying in size. The oldest available examples come from Str. VII.

¹⁵ Cf. *M-D*. III. P. cxiv. 516; see also the analogue from Eshnunna, *Asm.* II. p. 50, Fig. 32, third row.

¹⁶ For the term cf. A. Procopé-Walter, *AfO*. VI. 65 f.

¹⁷ Cf. *M-D*. II. 551 f., and III. Pl. cliii. 7-10.

4. STONE OBJECTS

(Plates XXXVIII–XLVII; LXXXI)

The nature of the stone objects found at Gawra and their proportional relation to corresponding objects of metal may be regarded as a striking illustration of the high antiquity of the site as a whole. It will be remembered that the Copper age proper sets in at Gawra not earlier than Str. *VI* (with which level Late Gawra may be said to begin), thus dominating only the upper third of the mound. Middle Gawra is overwhelmingly stone-using, much more so than its inevitable ascription to the Chalcolithic age would lead one to assume. Early Gawra (the borderline between Middle and Early Gawra appears to pass through Str. *XII*) may well prove to lie entirely in the Late Stone age.¹ To be sure, cultural sequences of this kind have no direct value for purposes of absolute chronology; the introduction of a new industrial technique in one center may be centuries removed from its adoption in another region. In the present instance, however, the relative emphasis on stone or metal is of great significance because of the proximity of Gawra to the principal known centers of the copper industry in ancient times. All the Gawra levels studied thus far have yielded ample evidence of commercial and cultural contacts with the outside world. It would follow that the same cultural conditions which these strata reflect obtained also, to a certain degree at least, in the various districts with which Gawra is known to have maintained relations. However, we are not ready as yet to evaluate the evidence bearing on the dating of the occupations under discussion. When that task is at length attempted, it will not be necessary to rely entirely on the testimony of stone objects alone.

The present chapter is concerned largely with weapons, tools, and a miscellaneous assortment of household objects; a number of isolated specimens, not listed with any of the above types, will also be described. Not included in this discussion are personal ornaments and amulets, which will be treated in a later chapter, and stone seals, which are grouped together with the rest of the glyptic material. We shall begin with the small industries, as represented by

¹ Cf. the Chronological Table, p. 183.

a. Implements of Flint and Obsidian (Pls. XXXVIII, LXXXI)

Certain facts about this unusually large group may be summarized with the aid of a distributional table. The tabulation is based exclusively on the specimens registered in our field catalogues, but the number of unregistered duplicates is very large, particularly in the case of blades and arrowheads; moreover, the figures leave out of account hundreds of examples which have found their way to the surface of the mound. Nevertheless, the following list is likely to be instructive in the sense that it affords a relatively correct picture of type frequencies throughout the several levels in question.

Object	Number per Stratum							
	VIII	VII	VI	V	IV	III	II	I
Blades — Flint	132	82	36	10	3	1	..	..
Obsidian	152	78	120	13	4	8	..	..
Arrowheads, Leaf-shaped, or with								
broad convex base — Flint ..	6	74	26	3	..	1	..	..
Stemmed — " ..	..	3	..	..	..	..	..	..
Notched — " ..	..	3	..	..	..	..	..	..
Concave Base — Obsidian ..	2	..	..	..	..	..	..	..
Scrapers — Flint .....	..	1	..	..	..	..	..	..
Obsidian	1	..	..	..	..	..	..	..
Drills — Flint .....	..	2	..	..	..	..	..	..
Cores — Flint	3	2	..	..	..	..	..	..
Obsidian	2	1	..	..	..	..	..	..

It is noteworthy that scrapers, drills, and cores, as well as several of the more specialized types of arrowheads are not found after Str. *VII*. Parallel with this reduction in repertoire goes a steady decline in manufacturing technique; the chipping and flaking seen on the artifacts of Str. *VI*, e. g., are notably poor, especially when contrasted with the excellent workmanship of the two lower levels. This is, of course, a corollary of contemporary advances in metallurgy. Skilled workers were attracted to the new material, and although the small stone industries held their own for a while, metal was destined to prevail at length in nearly all the competitive fields; the last stone implement of this group disappears with Str. *III*.

The flints employed at Gawra vary in color from a light grey to brownish and bluish grey and pinkish tan. The obsidian flakes are for the most part greenish black in color, but smoky obsidian is present in

a number of specimens, and in some dozen beautifully flaked pieces we find the material in its crystal-clear form. None of the specimens listed above shows any trace of patina.

To turn now to a few specific examples, the specimens illustrated on Pl. LXXXI (cf. also Pl. XXXVIII) may be regarded as representative of the whole group (except for the cores). Fig. 1 is a well chipped arrowhead of obsidian with concave base, and comes from Str. *VIII* (measurements are given only in special instances; for the others see the catalogue of illustrations). Fig. 2 (Str. *VII*) is a leaf-shaped arrowhead of dark grey flint; it is finely chipped and has delicate serrated edges. As a rule, this particular shape and the serrated edge (Pl. XXXVIII. *a*. 18) characterize the later specimens, especially from Str. *VI*, while the broad convex base (*ibid.* Nos. 12 and 16) is typical of the lower deposits. Fig. 3 (Str. *VII*) is a drill of brownish grey flint. Fig. 4 (Str. *VII*) is a poorly chipped drill of dark grey flint. In Fig. 5 (Str. *VIII*) we have an obsidian scraper with ends and both sides chipped and with the butt end shaped for hafting. Fig. 6 (Str. *VII*) is a scraper of light grey flint, roughly rectangular in shape, and slightly convex; both sides and end show traces of long use. Fig. 7 (Str. *VI*) is a blade of pinkish tan flint with serrated edges. Fig. 8 (Str. *VIII*) is a blade of dark grey flint with exceedingly fine secondary chipping on both edges. Fig. 9 (Str. *VIII*) shows a curved blade of pinkish tan chalcedony with well chipped edges. In Fig 10 (Str. *VIII*) we have a beautifully flaked obsidian blade that had been broken and repaired (= Pl. XXXVIII. *b*. 9). Of special interest is Fig. 11 (Str. *VIII*), an obsidian blade worn down to a notch towards the end as a result of having been used for sharpening arrow shafts. The same result may be observed on the specimen shown on Pl. XXXVIII. *b*. 15 (Str. *VIII*), a large and finely chipped blade of obsidian.

The cores (cf. Pl. XXXIX. *b*) call for little comment. Special interest attaches only to one specimen of brownish grey flint (*ibid.* No. 1; Str. *VIII*), because one of its sides represents the outside of the nodule. From all the available examples many short flakes had been struck off.

*b. Celts (Pls. XXXIX. *a*; XLI. *a*. 5, 7; XLII. 13-14)*

This prominent family of stone implements is represented not only in Middle Gawra, where it is naturally much in evidence, but also well up in Late Gawra. By the side of forty-one registered specimens from Str. *VIII*, we have six examples from Str. *IV*, a fair number considering

the small area to which the mound had been reduced at the time. The continued popularity of the stone celt even after the advent of the Copper age may be appreciated from the fact that by the side of the chisels and copper celts which are so numerous in Str. *VI* there was still room for many celts of diorite, basalt, quartz, and greenstone; the number of catalogued specimens from this layer is twenty-nine. To be sure, the presence of a rival medium is reflected, but not so much in diminishing numbers as in a let-down in technique. The shapes become stereotyped, with a marked predominance of straight edges and butts, and in place of the splendidly polished examples from Str. *VIII* we now have smooth but lusterless specimens. Exceptions to these general rules are rare. Chipping is absent throughout.

A group of typical celts is illustrated on Pl. XXXIX. *a*. In No. 6 (Str. *VIII*) the length (73 mm.) is considerably greater than the width (58 mm.), while in No. 11, a beautifully polished piece of very fine-grained basalt, the two dimensions are practically alike (29 by 28 mm.). In other early pieces the butts taper down to virtual points; thus No. 9 (diorite, Str. *VIII*) is almost triangular. Beveling and edges of razor-like sharpness are common features among the older specimens.

Two unusually large specimens of this family are shown on Pl. XLII. 13-14. No. 13, a basalt celt with convex edge (Str. *VI*) measures 102 by 50 mm., and No. 14, a trial trench find from a level corresponding to Str. *XI*, is notable for its width of 73 mm.; the length is 91 mm., and the material basalt.

The two celts illustrated on Pl. XLI. *a*, Nos. 5 and 7, are remarkable, on the other hand, for their small dimensions. No. 5 (Str. *VIII*) is of greenstone and has a slightly convex base which measures 38 mm. while the height is only 36 mm. What is exceptional about this piece, however, is its thickness which, except for the cutting edge, remains the same throughout and at no stage exceeds 3 mm. The result is a flat implement that is without parallel in this entire group. The other piece is a truly minute celt. It measures 27 by 18 mm., is made of white-and-green quartz, and comes from Str. *V*. Its suspension hole, the only one in the group, completes the list of unusual features that characterize this unique specimen.

*c. Mace-heads (Pls. XL. *a*; XLII. 1-4)*

Of the twenty-three catalogued specimens of this family (not counting the trial trench finds) eighteen were concentrated in two levels: ten

in Str. *VIII* (generally spherical in shape) and eight (mostly pear-shaped) in Str. *VI*. Three specimens were unearthed in Str. *V* and the next two levels yielded one apiece. No mace-heads were discovered in Str. *VII*, an interesting side-light on the accidents of preservation.

The holes are almost invariably cut from both ends and are narrowest towards the center of the weapon. In one instance (Pl. XL. *a*. 2) the perforation had been started but was never completed. Far more interesting is another example in which the hole runs only about three-quarters of the way up (Pl. XLII. 1), the closed end being provided with a short and narrow tang. At the top of the weapon there is a shallow indentation corresponding to the inside hole. The object is well worn and there can be no doubt that it had been in use, the part-way shaft-hole being evidently an intentional detail. Made of variegated red and white marble, this mace-head measures 64 by 54 mm.; judging from the trial trench depth at which it was found, it should be assigned to Str. *VI*.

Two other interesting, though damaged, specimens were found in the trial trenches opened during our first season. The first (Pl. XLII. 3) is made of white marble and is equipped with knobs regularly spaced all over the weapon (Str. *VIII*). The other one (*ibid.* No. 2 — Str. *VI*?) is provided at the upper edge of the hole with a well cut collar that is reminiscent of similar refinements encountered among the shaft-hole implements of copper (cf. p. 106).

d. Other Tools and Weapons

The objects which have been grouped under this heading include hammers and axes, rubbing stones and whetstones, sling stones, and polishers or smoothers. Naturally enough, all of these types are amply represented in the Chalcolithic levels. As far as Str. *VI* is concerned, the effect of competition with copper is noticeable only in the case of such weapons as axes and the like. The demand for rubbing stones or sling pellets could hardly be affected one way or another by contemporary developments in the metal industry. In one department the manufacture of stone implements was even directly stimulated by the efforts of the coppersmiths: the call for whetstones is now greater than it had ever been, there being sixty of these sharpeners in Str. *VI* to fourteen in Str. *VIII*.

To turn now to a few specific examples, we find several of the above groups illustrated on Pl. XL. *b*. In the case of stone hammers two main

types may be distinguished. One is the unperforated hammer, as illustrated by No. 1 (Str. VI); the other is the socketed hammer type, of which No. 7 is a good example. This specimen (Str. VIII), made of granite, has convex ends and two slightly concave sides, well worn. The boat-shaped implements that constitute Nos. 8-11 (Str. VIII) are all made of weathered basalt. The edges are now blunt. The characteristic shape of these objects suggests comparison with the familiar Neolithic battle axes of the "canoe" type² Pl. XLII. 11 (Str. VIII) shows a broken weapon of this type, made of black limestone. An unfinished axe of the same material (and from the same layer) is illustrated *ibid.* No. 12; the hole had been started from both sides, but for some reason the piece was not completed. Lastly, No. 5 (Str. IX) furnishes an interesting example of an adze-hammer; made of diorite, it measures 93 by 82 mm., and the maximum diameter of the splayed hole is 33 mm. Both ends show evidence of long use.

The rubbing stones (Pl. XL. b, Nos. 2-5) require little comment. Unperforated pieces are common and they are found at late as Str. III (No. 2); their absence from the two topmost levels is doubtless accidental. These tools may be conical, spherical, ellipsoidal, or rectangular in shape. Only two perforated examples are extant, one of which is illustrated as No. 3. This specimen (Str. VIII), which is made of weathered basalt like the others, is worn smooth at the base from prolonged use. The marks are clearly the result of rubbing and not pounding, and the hole, splayed at both ends, must have served as a finger hold.

The whetstones may also be dismissed with a few remarks. They are either plain or perforated for suspension and are found in a wide variety of sizes. As may be seen from the illustrations on Pl. XLI. a, these tools are for the most part irregular in shape. No. 8 (Str. VI) is perforated specimen of diorite measuring 103 by 38 mm. From Str. IV we have another perforated example of calcareous shale (No. 3), and a similar suspension piece, this time of black limestone (lower end broken) represents Str. V (No. 2). The unperforated specimen shown as No. 4 measures 121 by 45 mm. and is made of arenaceous shale; it is a trial-trench find from Str. XI or XII.

Two carefully shaped whetstones (both perforated) deserve special attention. *Ibid.* No. 1 (Str. V) is a beautifully smoothed piece of shale, with rectangular sides having widths of 14 mm. and 7.5 mm. respec-

² Cf. M. C. Burkitt, *Our Early Ancestors* 118 f.

tively; the present length is 90 mm., one end having been broken. The other specimen (No. 6) is a very delicate piece of shale measuring 50 by 11 by 2 mm. It is really a three-way implement, since one side was used for sharpening, the other for polishing, while the base is provided with a celt's edge. It is suitable for fine work in bone, and the fact that this piece comes from Str. *VIII* lends color to the assumption that it was used for that purpose, inasmuch as tools and ornaments of bone and ivory occur in the lower layers, but disappear almost entirely with the beginning of Str. *VI*.

Sling pellets of stone are common, even though they are not as much in evidence as those of terracotta (cf. p. 80). They vary considerably with regard to both size and material. Pl. XLII. 9 (Str. *VIII*) is of weathered basalt and measures 69 by 39 mm. No. 6 is a companion piece from the same layer and is made of the same material, but the measurements are here only 63 by 34 mm. No. 7 is a fine specimen of marble (Str. *V*) measuring 55 by 22 mm. No. 10 appears to be a ballista ball, to judge from its nearly spherical shape (d. 35 mm.); it is a surface find and the layer is uncertain.

e. *Weights* (Pls. XLI. *b*; XLIII. *a*)

Although we have approximately one hundred specimens registered as weights, a good many of these catalogue entries are followed by question marks. Several factors combine to cast doubt on a number of these attributions. To begin with, criteria of shape are all too often ambiguous in this particular instance. The Gawra objects in question may be ellipsoidal (Pl. XLIII. *a*. Nos. 4-5, 7), barrel-shaped (No. 6), cylindrical (No. 3), prism-shaped, cone-shaped (No. 8), roughly duck-shaped (No. 1), discoid, and cube-shaped, not to speak of marginal (No. 2 is flattened at one end) and indefinite types. Now while the ellipsoidal and barrel-shaped examples seldom admit of any doubt as to their original use, no comparable certainty exists with regard to the remaining groups. For the cube-shaped and discoid specimens may often represent gaming pieces; some of the cone-shaped pieces may have been employed as small rubbing stones, the well ground and polished bases found in this group resembling closely the rubbing surfaces of the latter, particularly when these had not seen too much use. So far we have been considering plain types as opposed to those that are perforated for suspension. In this latter class there is often the danger of mistaking ordinary loom weights for balancing units, espe-

cially when the polish is indifferent or absent. A further complication arises from the fact that we are dealing with several culturally distinct strata with presumably divergent, if not totally different weight systems. As against these negative elements we have in a few cases the absolutely positive evidence of marks indicating the number of weight units. The data thus obtained are of course basic for the study of the unmarked pieces. Lastly, indirect evidence may be furnished by the character of the material employed. Haematite, e. g. (generally chocolate brown in color, occasionally bluish grey), was used more frequently than any other single type of stone in the manufacture of the unperforated objects under discussion. Otherwise this material is extremely rare at Gawra. Now the weights of the haematite specimens prove to be in the majority of cases multiples of the ascertained weight units. It is reasonable to assume, therefore, that the aberrant examples also represent weights.

In the discussion that follows we shall first take up the plain weights, or rather the unperforated specimens that are certain or at least likely to have served as weights. The account will be concluded with a brief statement concerning the suspension weights.

The principal data bearing on the plain weights may best be given in two tables. In the first group we shall find the few specimens on which the number of weight units is designated by means of parallel vertical scratches. Selected unmarked specimens will constitute the second group.

TABLE A. MARKED WEIGHTS (Pl. XLIII. a. 2, 5, 7)

Serial Number	Stratum	Field Number	Material	Shape	Number of Units	Weight Grams	Weight per Unit	Remarks
1	IV	5056	Black limestone	Ellipsoidal	10	82.90	8.29	Pl. XLIII. a. 5
2	VI	1588	Haematite	"	2	16.68	8.34	<i>ibid.</i> 4
3	VI	5242	Diorite	"	2	17.70	8.85	
4	VI	1611	Black limestone	Barrel, flattened on one side	8	65.50	8.19	<i>ibid.</i> 7

The weight units underlying these four examples are slightly in excess of eight grams. In fact, in three of the above cases, which represent two different strata (IV, VI), the maximum deviation is only 0.09 g., the weights ranging from 8.19 to 8.34 g. In No. 3 (the refer-

ences that follow are to Serial Numbers in Tables A and B) we seem to have a basic unit of as much as 8.85 g. This result is surprising in view of the fact that another marked weight from the same level (No. 4) is based on a unit of only 8.19 g. Moreover, the eleven unmarked weights from Str. *VI* (cf. of Table B) which are plainly based upon the same system as the marked examples, yield units of not under 8.05 g. and not exceeding 8.18 g., thus maintaining a high standard of accuracy. If the present specimen were undesignated there might have been some doubt as to its original use; but the markings upon it are obviously intentional. They are also clear enough, considering the hard mottled stone on which they were incised. The nature of the material, however, may furnish a clue to the solution of the problem. The stone is irregularly porous, and yet it is barely possible that a dot-like indentation appearing two mm. to the right of the second marker and almost exactly half way up was made intentionally so as to indicate a fractional value. In that case the piece would represent $2\frac{1}{10}$ weight units at 8.08 the unit, well within the range otherwise established for the stratum. This suggestion may, however, be far-fetched; for another possibility see below.

The ten-unit piece from Str. *IV* does not imply necessarily the use of a decimal system. On the other hand, the appearance of an eight-unit piece in Str. *VI* may be more than fortuitous. The number of units alone would not be at all significant, but the special emphasis upon it as shown by the marking may reflect a usage known to us from the Nuzi documents. Two systems were current among the Nuzians, one full and the other light, the ratio between them being 8 to 10. In other words, a nominal hundred-weight required only eighty units by the light system, in which the word for "hundred" even had the value of "eighty."⁸ To be sure, the Nuzi documents are some fifteen centuries later than the objects from Str. *VI*; we do not know, however, from what sources the Nuzians inherited their curious short count, and so it may be well not to overlook the possibility that owing to some early inflationary tendencies eight units had to be accepted at certain times as the full legal equivalent of ten.

The last two problems discussed have carried us into highly speculative fields, which may not be an altogether proper procedure in connection with weights. Fortunately there is nothing speculative about the identification of our weight unit. Mean weights slightly in excess

⁸ For this curious usage cf. *JAOS*. 53. 25.

of 8 g. are familiar to us as shekels from a variety of eastern sources. The value of the Babylonian shekel, which is subdivided into 180 grains, is 8.40 g. It has been shown that the grains in question were specifically wheat grains at 0.47 g. to the grain (as compared with the generally accepted value of 0.48); the mean weight of the barley grain, which is often erroneously regarded as the basic element of the shekel, is 0.64 g., or 25 percent too high for the purpose. The mean value of the Elamite shekel is 8.37 g. and that of the Assyrian half-shekel (in the so-called heavy system that assigned to the shekel twice the value current in the south) is 8.35 g.⁴ The mean shekel of Gawra VI, by whatever name it may have been known, proves to have a value of 8.19 g. In computing this weight we have anticipated the results furnished by our second table, which is now presented.

TABLE B. SELECTED UNMARKED SPECIMENS

Serial Number	Stratum	Field Number	Material	Shape	Weight in Grams	Weight in Shekels	Value of Shekel	Remarks
5	V	5084	Haematite	Cone	18.00	..	..
6	V	5136	Basalt	Cone, irregular	21.00	..	..
7	VI	5690	Haematite	Ellipsoidal	2.90	..	..
8	VI	1485	"	Ellipsoidal, one end flattened	5.90	..	..	Pl. XLIII. a. 2
9	VI	5215	"	Cylinder	8.05	1	8.05	
10	VI	5316	"	Ellipsoidal	8.14	1	8.14	
11	VI	5244	Diorite	"	8.17	1	8.17	
12	VI	1539	Haematite	Cylinder	12.17	1½	8.11	
13	VI	1280	"	Cone	12.22	1½	8.15	
14	VI	5243	Diorite	Ellipsoidal	16.30	2	8.15	
15	VI	1469	Haematite	Cone	33.37	4	8.34	Ibid. 8
16	VI	1588	"	Cylinder	40.50	5	8.10	
17	VI	5246	Diorite	Barrel	40.74	5	8.15	
18	VI	1489	Haematite	Cylinder	49.10	6	8.18	
19	VI	1468	"	Cone	49.70	6	8.28	
20	VII	5298	Basalt	Cylinder	8.41	1	8.41	
21	VII	1485	Haematite	Ellipsoidal	8.41	1	8.41	
22	VII	5354	"	Duck	7.49	..	..	Ibid. 1
23	VIII	5697	"	Discoid	9.60	..	..
24	VIII	5941	Diorite	Barrel, flattened	75.10	9	8.34	Ibid. 6

⁴ Cf. the chapter on "Weights" in *M.-D.* II. 589 ff., by A. S. Hemmy; but see studies of Col. N. T. Belaiew, such as "On the Origin of the Sumerian Mina," *Transactions of the Newcomen Society* VIII, and "Métrologie Élamite," *MDEP.* XXV. 135 ff.

Taking first those pieces that appear to have a definite relation to the shekel, we find eleven such examples in Str. *VI*, in denominations of one, one and a half, two, four, five, and six, which yield for the unit a mean value of 8.18 g. Of great interest are the two weights from Str. *VII*, both with the same value of 8.41 g., and the diorite specimen from Str. *VIII* weighing 75.10 g. or 9 shekels at 8.34 g. to the shekel. If the small number of specimens is no serious obstacle to the formulation of tentative conclusions, we see from these examples that the value of the shekel in both Str. *VIII* and Str. *VII* corresponded closely to the southern unit as known from later times, but exceeded the weight of the shekel current in Gawra *VI*.

The number of aberrant weights, or rather of objects that seem to be aberrant weights, is too small to admit of a profitable analysis. This group could have been increased considerably, but I have singled out for the present study only those specimens that correspond most closely to the normal weights with regard to both shape and material. The two examples from Str. *V* (Serial Nos. 5-6) appear to be based on a unit of 3 g. We have seen that the contemporary shekel had a value of 8.34 g. or slightly less than three times the value of this smaller unit. It may be, however, that the small mina (60 grains, or one-third of a shekel) was normalized at a slightly higher value than a third of the higher unit. Similarly, we may have a small mina in Serial No. 7 (2.09 g.) and a double small mina in No. 8 (5.90 g.). But the duck-shaped object from Str. *VII* (Serial No. 22; Pl. XLIII. *a*. 1), if it is indeed a weight, does not fit at all into these categories; with its weight of 7.49 g. it points to a different system. The discoid specimen from Str. *VIII* weighing 9.60 g. is altogether a misfit; it is very probably a gaming piece and not a weight.

The large basalt object illustrated on Pl. XLII. 15 almost certainly represents a weight. It is 143 mm. long and has a flat ovoid base with dimensions of 80 by 57 mm. The weight of this specimen is 1368 g., which is equivalent to 163 shekels at slightly under 8.40 g. to the shekel, the approximate mean value in Str. *VIII* from which our piece has come. We may have here, then, a weight only three shekels in excess of two and two-thirds minas, which is exact enough for bulk weights.

Suspension weights will not detain us long because the number of reasonably certain examples of this class is small. In fact, the only piece that is not really suspect is a haematite weight suspended from a copper ring (d. 27 mm.), which was found in Str. *VI* (Pl. LXXXII.

26). The stone and the ring together weigh 41.11 g. or five shekels at the contemporary value of 8.1 g. to the unit.

Several suspension objects are shown on Pl. XLI. *b*, some of them apparently scale weights, others merely loom weights, or the like. It will be seen that either holes or notches, or on occasions both, could serve for suspension. No. 2 (Str. *VIII*), of calcareous sandstone and notched, measures 102 by 53 mm. and weighs 147.70 g. It corresponds to 17.5 shekels, an unlikely value for a proper weight. No. 1 (Str. *VII*) is both notched and pierced. It is made of the same stone, measures 93 by 43 mm. and weighs 78.80 g. or about 9.5 shekels, again an unlikely denomination; more probably it is a sinew stone as may be gathered from numerous striations on both edges; it may have been used on bow strings or for leather work. On the other hand, some of the specimens from Str. *VI* appear to have been actually employed as scale weights. Thus No. 5, a rectangular object of micaceous sandstone, with rough sides and smooth edges, and with dimensions of 144 by 49 mm., weighs 242.20 g. or almost exactly 30 shekels (one half mina) at the current value of 8.1 g. Similarly, No. 4, another flat and rectangular piece of calcareous sandstone (106 by 80 mm.), corresponds exactly to two-thirds of a mina (329.20 g. = 40 shekels); it shows, however, traces of rubbing. No. 3 (Str. *V*; quartz diorite; 104 by 68 mm.), which weighs 406.20 g., equals 50 shekels. But No. 6 (Str. *VI*; basalt, pierced; 97 by 36 mm.), which weighs 104.50 g., yields slightly less than 13 shekels and is therefore suspect as a weight proper.

Before this section is concluded the fact should be stressed again that the term "shekel" has been used in this discussion for the sake of convenience, without implying necessarily the existence of a standard weight unit known by this particular name. We have seen that the mean value of the unit varied from stratum to stratum and that certain fluctuations were observable even during a single occupation. Now recent researches by Col. Belaiew have established the presence in Mesopotamia of at least three different minas at the turn of the third millennium: DI at 491.14 g., DII at 502.20 g., and DIII at 511.83 g.;⁶ the value of the respective subdivisions would vary accordingly. The same metrologist was good enough to examine the Gawra results (from the MS) and he has made a number of illuminating comparisons. Our weight No. 4 proves to be a particularly fine specimen of the DI system. Nos. 9-11 and 14-19 are also, in his opinion, examples of the same

⁶ Cf. especially *RA*. XXVI. 115 ff.

system. What makes this identification especially plausible is the fact that all these weights come from Str. *VI*, a single and well defined settlement of a civilization characterized by unusually extensive commercial relations.⁶

In addition to these D-minas, which seem to have originated in Mesopotamia, Col. Belaiew recognizes several other standards, such as Peyem, Qedet, and Beqa, thus named after the broad classification worked out lately by Sir Flinders Petrie.⁷ The presence of such weights would indicate influence from, or at least contacts with Egypt. The Peyem (*cir.* 7.5 g.) proves to be one-fourth of another Mesopotamian weight, the SU, whose value is slightly in excess of 30 g., to judge from two marked specimens owned by the British Museum.⁸ Then there is the Mohenjo-daro (MD) unit of 0.85 g. And finally, a unit specialized in Elam, but perhaps originally connected with the Qedet, has been named "Insect"; its mean value is a little over 3 g.⁹

Applying these standards to the Gawra weights, Col. Belaiew would see in our duck-weight (No. 22) an excellent example of the Peyem class, at exactly one unit. The necessary assumption of contacts with Egypt at the time of Str. *VII* will not prove disturbing when the foreign relations of the occupation in question have been reviewed in a later chapter. Nos. 5-8 would belong to the Insect group; the levels are *VI-V*, and contacts with Elam are probable in these as well as in earlier periods. No. 9 could well be a weight containing ten MD units (8.5 g.); again there is sufficient evidence of connections with the Indus civilization at the time of Str. *VI*.

In conclusion, I take the liberty of noting two other suggestions by the same authority, even though they entail certain difficulties. No. 3 (17.70 g.) is assigned by him to the Insect group. It would represent six of these units, slightly underweight. But since the markings indicate two units only, the situation is seriously complicated. We have seen that at two shekels the piece would be overweight, which again gives pause for thought. Perhaps we have here an instance of a weight transferred from one system to another, with the markings showing the

⁶ See below, pp. 158 f., 162 f., 166 ff., 175.

⁷ *Ancient Weights and Measures*, London, 1926.

⁸ Cf. *Seminarium Kondakovianum IV* (1931), pp. 183 ff., and p. 203; *Métrologie Elamite* 138. But the value of the SU in the Kirkuk and Nuzi text was apparently no more than a shekel. It would seem that an old name had been retained while the value was equalized with that of the prevailing Mesopotamian unit.

⁹ *Ibid.* 137.

approximate value within the new group. As for the large basalt weight illustrated on Pl. XLII. 15, it is clear that we have here a specimen corresponding approximately to 160 shekels. If we regard it as a representative of the DIII system, this correspondence would become exact. Another possibility would be to equate this weight with 1600 MD units. The trouble, however, is that we should have to assume relations with Mohenjo-daro at the time of Str. VIII. For this we have not sufficient evidence. Connections with the Indus valley are probable at the time of the early painted pottery and certain in the Early Dynastic period (Str. VI); but Gawra VIII represents an intermediate phase.

f. Vessels

Under this conveniently general heading several disparate types have been brought together. Thus the group includes palettes, paint and plain mortars, moulds for casting copper, pedestaled containers of the brazier type, and a number of cups, bowls, and jars. What makes the whole collection more or less interrelated is the fact that the objects included in it are utensils of one sort or another; and more is to be gained in this particular instance from a simplified classification than from nice typological distinctions.

Palettes and Paint Mortars. There can be little doubt that the six objects illustrated on Pl. XLIV. *a* were employed for grinding and mixing colors used for cosmetic purposes as well as for the painting of such delicate objects as pendants and amulets. Although no traces of pigment have remained on any of these examples, each specimen shows definite rubbing marks which make the identification a certainty.

The material may be marble (No. 1 — reddish; No. 3 — mottled grey; No. 5 — buff), black diorite (No. 4), or limestone (black — No. 2; white — No. 6). Basalt is also found in several instances (not illustrated). As regards shape, Nos. 4 (trial trench find, probably Str. XII) and 6 (Str. VI) resemble ceramic types in that the rubbing area is like the inside of a cup or a bowl; the former specimen has even a definite disc base. But No. 1 (Str. V), which is roughly cone-shaped, and No. 3 (Str. XIII), which is discoid, merely contain definite depressions. No. 2 (Str. VI) exhibits, on the other hand, a typical palette shape: a rectangular plate with low ledges along the longer sides. No. 5 (Str. IV) is a plain slab. In addition to these purposefully shaped specimens there are several flat pebbles with depressions at the top to prove that they were employed as palettes.

Mortars (cf. Pl. XLV. *b*). Examples of this group were found in all but the three topmost strata of Gawra. The illustrated specimen (Str. *IV*) may be regarded as typical of the entire family. The material is limestone, while the pestle is of diorite.

The basalt vessel (220 by 70 mm. — Str. *VIII*) which is reproduced on Pl. LXXVI. 19 is in a sense a type intermediate between the palette and the mortar. Like the former it is shallow, but it appears to have been used for pounding instead of rubbing.

Moulds. The largest of the Gawra moulds for casting copper (Pl. XLVII) will be described in the next chapter. Two other specimens of the same class have been found on our site, both made of sandstone. One of them (Str. *VI*) contains the outline of a celt, while the other (Str. *V*) was used for casting razors of the type illustrated on Pl. XLIX. 2; it is in a fragmentary condition, but there are on it no clear traces of any other forms.

Pedestaled Objects. The large and graceful object of weathered basalt (measuring 305 by 360 mm.) which is reproduced on Pl. LXXVI. 17 was discovered intact in the Eastern Temple (R. 802) next to a broken specimen of the same type. It is of the charcoal brazier type, and the presence of two such pieces in the cult chamber of an important shrine neither suggests nor precludes their identification as offering stands. No doubt, these objects lent themselves to a variety of ritual uses.

Other Vessels. The specimens relegated to this group are nearly all isolated examples of types abundantly represented in pottery. Of particular interest is a carinated bowl of grey marble (Pl. XLIV. *d*), not so much because of its beautiful workmanship and perfect state of preservation as on account of its high antiquity. A trial-trench find of the first season (Square C 7), this specimen was uncovered in one of the lowest deposits at Gawra. While its exact stratum cannot be determined at present, it should be noted that the bowl was found together with fragments of red-painted ware with designs grouped in a characteristic metope arrangement; the establishment of an exact sequence of painted pottery types is one of the tasks reserved for the future excavators of Early Gawra.

To return to stratified specimens, we find several examples of the group in question in Str. *VIII-C*. Most noteworthy perhaps is an elegant jar of calcite with red and white limestone breccia, incomplete but of excellent workmanship. The height of this piece is 194 mm. (cf.

Pl. LXXVI. 20). Less pretentious is a sharply carinated model jar of black slate (?) (Pl. XLIV. b. 1); it is only 19 mm. high and 27 mm. in diameter. A remarkable feature of this minute object is a hole in the center of its base, the significance of which is not at all clear. A cup of similar proportions, made of light grey ware, is shown *ibid.* No. 2.

The basalt bowl reproduced on Pl. LXXVI. 18 is probably a small mortar and may be compared with a larger specimen of the same general type shown *ibid.* Fig. 19.

Fragments of two vessels made of a poor grade of translucent alabaster came up in Str. VI. Some of these belong to a shallow cup decorated with rows of punched dots spaced irregularly on the rim and shoulder; traces of a moulded serpent with head pointed towards the rim are seen on the outside. Other fragments of the same material yield the incomplete outline of a tripod.

From Str. V comes a marble tumbler of indifferent workmanship (*ibid.* Fig. 16). In this connection may be mentioned several stone lids found in Str. VIII. They are discoid in shape, are made of either marble or sandstone, and average 80 mm. in height and 20 mm. in thickness.

g. Figurines

The upper strata of Gawra produced few human representations in stone, and it is hardly likely that such figures will prove to be more abundant in the lower layers. It is worthy of notice that corresponding works in terracotta are almost equally rare. One might be tempted to inquire at this point whether the scarcity of human figurines resulted in any way from the religious idiosyncrasies of the Gawrans. But any argument of this nature would be necessarily one from silence, and so the question is best left unanswered.

The limestone figurine shown on Pl. XLV. a is typical of the three complete specimens that have been unearthed. It was found loose in the debris of Str. III, but this circumstance need have little bearing on the relative age of the object inasmuch as such statuettes are often reused as building material. Such at least was the fate that befell the two remaining examples of this class; one was discovered in a wall of Str. IV and the other came from a floor of the layer above, both considerably the worse for such abuse.

The present specimen measures 250 mm. in height and the width of the base is 164 mm. The piece is roughly bell-shaped, but rectangular in cross-section, except for the ovoid head. The summary treatment of the head precludes a definite decision as to sex; on the analogy

of related objects of this type, however, our figurine may be regarded as female.

Smaller marble figurines of the mother goddess will be found described under amulets.

h. Varia

Stand (Pl. XLVI. *a*). This object of pink marble is 90 mm. high and has a diameter of 140 mm.; the height of the ledge is 27 mm. The exact use of this piece, which comes from R. 638, is unknown; it probably served as a pedestal of some kind.

Phallic object (Pl. XLVI. *b*). This interesting specimen was discovered in the southwest corner of R. 802, just before our campaign of 1927 was brought to a close. The occurrence of a phallic symbol in the Eastern Temple affords some insight into the religious ideas of the people of Gawra *VIII*. Significant also is the fact that the symbol was obviously intended to emphasize circumcision; an accidental irregularity in the material employed was utilized for that purpose in preference no doubt, to representations carved by human hands.

The object is 120 mm. long and has a maximum width of 63 mm. Its flat and oval base measures 51 by 42 mm. The material is gabbro with a quartz grain forming the ridge.

Tablet (Pl. XLIII. *b*). This rectangular object of black diorite is enlarged in the illustrations, which show the two main surfaces (A and B), to slightly more than twice its natural size. The actual measurements are 39 by 26 by 9 mm. The tablet was found in area M 13 at a depth of 1.60 m. below the slope. Since it is a trial trench find from a layer close to the base of the mound, the exact stratum cannot be determined for the time being. There can be little doubt, however, that we have here a product of one of the oldest settlements at Gawra. The tentative stratigraphic testimony is supported by the evidence of the handmade painted bowl (Pl. LXII. 2) that was found nearby, a piece of pottery representing the earliest types from our site.

Side A is divided by transverse grooves into eleven sections, while side B consists of only three registers. The larger sections are filled with irregular criss-cross markings, the others with various haphazard incisions. A few scratches are visible also on the left edge. This curious object seems to defy interpretation; perhaps it was employed for some primitive magic practices.

"*Hut Symbol*" (Pl. XLIV. *c*). During the first week of our second campaign the trial trench yielded an interesting object of grey

marble in Square M 11. It is a beautifully polished piece with a round base, 98 mm. in diameter, a rectangular neck, and two voluted ears or handles near the top. The total height is 145 mm. When our excavations reached Str. *VIII-C* it became evident that area M 11 would bring us down to Str. *IX* or *X*; our marble object was assigned therefore to one of these occupations. In the meantime, Mr. Bache has excavated both these strata and found similar specimens in both of them. The relative date of our piece has thus been established beyond dispute. Stratigraphic data are, however, of little value in determining the significance of such strange and rare objects as the one under discussion. Its careful finish and the absence of any trace of wear suggest some ritual rather than practical purpose behind it, but these deductions afford slight satisfaction.

The interpretation tentatively embodied in the above heading has been advanced by the eminent architect and excavator, Dr. Walter Andrae.¹⁰ It is expounded in his latest study on the origin of the Ionian column and is based in part on the present specimen, which he had an opportunity to examine during a recent visit to Iraq. The lower part is shown to represent the divine dwelling, originally a structure of reeds, while the volutes signify the door posts of reed bundles that framed the main entrance. The whole would then be a symbol for archaic reed sanctuaries, the Reed Huts known from Sumerian literature.

Andrae's basic theory of the "Ringbündel" is based on a mass of evidence gathered from architectural, epigraphical, and glyptic sources. The "hut symbols" constitute but a minor link in a long chain, but the explanation is a logical one and suits the known facts.¹¹ He is mistaken, however, about the date of these symbols. They cannot be relegated to the time just before the Sargonid period, as he would hold, but must be placed instead at not later than the middle of the fourth millennium B. C.; that this is a conservative estimate for an object from Gawra *IX* will be demonstrated in the section dealing with the chronology of our strata.

¹⁰ *Die Ionische Säule*, Berlin, 1933, pp. 32 ff. It should be noted that the specimen marked "Tell Billa" (Fig. 45) is in reality our piece from Tepe Gawra. Conversely, the fine cylinder seal reproduced *ibid.* Pl. IV. c is erroneously credited to Gawra (p. 39) instead of Billa.

¹¹ In Gawra *IX* and *X* Mr. Bache found a number of these objects not only in stone, but also in terracotta. Does the fact of the comparative commonness of the type shake Andrae's explanation? I hesitate to answer this question. At any rate, the occurrence of terracotta specimens precludes their identification as weights.

5. COPPER OBJECTS

(Plates XLVIII-LI; XLXXXII. 1-14, 16-24, 26-29)

This category comprises nearly all the metal objects found in the eight upper strata of Gawra. The number of specimens made of other metals is negligible. There are a few objects of gold, mostly from the child burials of Str. *VIII*, and three broken rings of silver from Str. *VI*. A discussion of these ornaments will be combined with the treatment of beads and amulets, to which a later chapter has been devoted. In addition there is a single specimen of lead from Str. *II*. But these exceptional occurrences are scarcely sufficient to offset the impression that, to judge from the material at hand, metal at Gawra was practically synonymous with copper, or better still, with copper alloys.

In speaking of copper the archaeologist has often in mind some copper alloy obtained from a smelted ore, for native copper is rare and the metal in its pure form is usually too soft to be of much practical use. The presence of a suitable admixture of tin imparts properties that are said to differentiate bronze from copper; but a given civilization need not be regarded as having attained the bronze state unless the alloy of copper and tin is "purposefully made."¹ In other words, it is the controlled manipulation of copper alloys that is instrumental in the production of bronze of a desired degree of hardness and malleability. The ability to exercise the necessary control, however, is not easy to prove in the case of civilizations of high antiquity; the assumption of accidental combinations and contaminations is all too often a plausible alternative. At all events, the first step in such an inquiry is to determine the tin content.

In analyzing a pin from Str. *VIII* and a chisel from Str. *VI* the following results were obtained:²

¹ T. A. Rickard, *Journal of the Royal Anthropological Institute* LXIX. 281; see *VC*. 286.

² The analysis was made by Mr. R. M. Berry, of the firm of Smith, Rudy & Company, Philadelphia.

	Pin, Gawra VIII	Chisel, Gawra VI
Copper	93.22	97.01
Tin	5.62	0.37
Lead	0.24	0.04
Zinc	0.05	0.10
Iron	0.04	0.49
Aluminum	0.02	0.06
Nickel .....	...	...
Manganese .....	...	...
Silver .....	...	...
Arsenic	0.67	1.59
Antimony	0.09	0.04
Sulphur	0.05	...
Phosphorus .....	...	...

These results are interesting for a number of reasons. Both specimens differ sharply from similar objects of Sumerian origin in their total lack of nickel.³ The presence of sulphur in the first specimen represents a further departure. It is reasonable therefore to conclude that during the periods in question the north and the south obtained their ores from different sources.

Even more noteworthy is the difference between the two pieces as regards their tin contents. The older object, dating from a prehistoric stratum as we shall see later on, contains about 15 times as much tin as the specimen from Gawra VI, which may be dated to the early part of the third millennium. Curiously enough, the results from Sumer furnish close parallels in this respect; there "bronze" seems clearly to antedate the copper of the Early Dynastic age.⁴ If the mere presence of a sufficient amount of tin were a universally accepted criterion, we should be compelled to regard the material of the pin from Gawra VIII as bronze, and that of the later chisel as copper. But if the alloys under discussion depend for their correct appellation upon controlled manipulation of their constituent elements, no decision is possible at present because we have not the means of determining whether the tin content in each case was not accidental. There can be no doubt, however, that both in Sumer and at Gawra prehistoric specimens contain more tin than similar objects of later date. Does this particular agreement indicate certain changes in technique? The problem is evidently an involved one and must be left to experts to decide. For our present

³ For the Sumerian material see the Tables in the chapter on "Metals and Metal Technique," by H. J. Plenderleith, *UC*. 284 ff.

⁴ Cf. *ibid.* 286.

purposes it will be simplest to stretch the definition of copper so as to include alloys of varying contents and with variable amounts of tin.

While we are referring to tables, it will be interesting to examine the distribution of the copper objects from Gawra through the several strata with which we are concerned. By adding up the columns in the appended stratigraphic summary we obtain the following totals of copper specimens for each level:

<i>VIII</i>	— 22
<i>VII</i>	— 42
<i>VI</i>	— 334
<i>V</i>	— 43
<i>IV</i>	— 11
<i>III</i>	— 7
<i>II</i>	— 0
<i>I</i>	— 0

The value of such a frequency curve may be questioned on the ground that it fails to give an exact distributional picture, being based on such specimens only as were given field numbers in our catalogues. The occurrence of other copper objects was noted on field cards without being otherwise recorded. This process of selection affected, however, only the imperfect specimens of well represented groups, such as pins and needles. Smaller groups were recorded in their entirety, and the same was of course true of all unique pieces, however damaged or obscure as to use. In consequence, the tabular analysis by layers is practically exhaustive in the case of all the strata except Gawra *VI*, where the abundance of metal objects enabled us to ignore for cataloguing purposes a considerable number of poorer duplicates. If every scrap of copper had been noted, the disproportion between Str. *VI* and the other levels would have been even greater than it now appears.

On chronological grounds alone the enormous rise in the use of copper which we witness in Gawra *VI* would not be nearly as remarkable as the equally pronounced drop in the later levels. This apparent anomaly is adequately accounted for, however, by the contours of the mound, which factor we have found responsible for several other details of the mound's history. The steadily diminishing areas from Str. *V* upwards naturally entailed a corresponding shrinkage in various types of objects. Str. *VIII*, on the other hand, which exceeds *VI* both in depth and in extent, would ordinarily be expected to equal at least the metal output of the upper settlement. Instead, we are confronted with

a difference of some 1500 percent in favor of Gawra *VI*. Since we are dealing in both instances with exceptionally well preserved occupations, these figures cannot be considered fortuitous; they present necessarily a true picture of relative distribution. In terms of cultural chronology, Gawra *VI* lies within the Copper age proper, while Gawra *VIII* is Chalcolithic. These somewhat stereotyped designations acquire a fresh significance in the light of the present statistical facts.

And what of the intermediate layer? We have seen that Str. *VII* was architecturally insignificant. It would be a mistake, however, to regard this level as correspondingly poor in objects. Gawra *VII* gives an excellent account of itself in terms of pottery, terracottas, and stone objects. But as regards copper specimens, there is only a slight increase over the preceding level: Gawra *VII* is still clearly Chalcolithic. The axes and adzes that are so typical of Str. *VI* confront us neither in *VII* nor in *VIII*, and Str. *VII* fails also to show any advance in metal technique.

It would be of some value to determine the precise stage at which the Chalcolithic age sets in at Gawra. Our trial trenches disclosed no copper whatever in the lower levels, but this type of evidence is not complete enough to be decisive. It is entirely probable that the limits of the Neolithic age are not many layers below Gawra *VIII*. For a definite answer, however, we must await the results of further excavations.⁵

Turning now to methods of manufacture, both hammering and casting were employed. While it is often difficult to judge the technical process from the specimens that have come down, there is sufficient evidence to warrant the statement that *VIII* and *VII* obtained the majority (if not all) of their copper objects through hammering, whereas the coppersmiths of Gawra *VI* made use of both the hammering and the casting methods. The older pieces were simple enough in shape to call for little annealing, but the hammered objects of Str. *VI*, such as the frying pan (Pl. LI. *b*) required considerable technical skill. The most important group of cast pieces comprises socketed axes and adzes. That casting was employed also in the production of chisels may be seen from the sandstone mould from Str. *VI* (Pl. XLVII), one side of which was designed for the shaping of four of these implements (one on the left edge of the mould), and of one pike-head, while the other was intended for three, two of them being of the broad or blade-axe

⁵ Cf. the Chronological Table, p. 183.

type. As a contemporary witness of local technical processes this mould is a singularly valuable and welcome find.

It remains now to review briefly the main types of copper objects from Gawra, as well as some of the rarer occurrences. It will be seen that the Gawra material consists of tools and weapons, household implements and utensils, ornaments and toilet articles, and a small number of miscellaneous pieces. Unless otherwise stated, the objects described will be understood to come from Str. VI.

Socketed Objects. Str. VI holds a virtual monopoly on this class of tools and weapons; the only outside piece, a shaft-hole adze, comes from the fourth level. The total absence of shaft-hole⁶ (or socketed) specimens from the two lower strata can hardly be ascribed to accidents of discovery. The explanation that commends itself instead is that the casting of such objects presupposes a technique too advanced for the Chalcolithic period at Gawra.

Of the two main types of axe, the straight and the transverse, the adze, or transverse axe, was clearly the more favorite tool of the Gaurans. As against three axes (with the cutting edge parallel to the shaft), we have no less than fifteen socketed adzes. Three of these came up in R. 649, inside a pot which contained in addition a variety of other copper objects, numerous beads, and two cylinder seals.⁷ The remaining adzes were found in most cases on the floors of other rooms, occasionally also loose in the soil.

a. *Adzes* (cf. Pls. XLVIII. 9; XLIX. 5; LXXXII. 29). Most of the Gawra adzes (to use this term as a convenient substitute for adze-head) conform to a single well marked type, of which Pl. XLIX. 5 furnishes a good illustration. The shaft-hole has a diameter of 19 mm., and the blade, inclined slightly towards the socket, is 115 mm. long. The cutting edge was sharpened by hammering, becoming splayed and curved in the process. The implement as a whole is light, but well balanced and graceful in appearance. Oxidation of the copper helped to preserve some of the shaft wood in the sockets of this and several other adzes.

As a rule the sockets are plain, without the collars at the top and

⁶ For an illuminating technical discussion see the article by V. Gordon Childe on "Eurasian Shaft-hole Axes," *Eurasia Septentrionalis Antiqua* IX. 157 ff.

⁷ Cf. *AASOR*. IX. 35 f. The term "axe-head," which I used there, is an obvious oversight for "adze-head."

bottom which are so typical of the early Sumerian specimens.⁸ This norm is disturbed only by a solitary example of a socket reinforced with very prominent tubular collars (Pl. LXXXII. 29). The blade had broken off, which might perhaps indicate that the Gawrans were not very adept in the manufacture of such adzes; more likely, however, the specimen represents an imported type.

b. Axes. Of the three axes available, all from Str. VI, two show long and narrow blades, slightly lobed. The third one (from R. 657) is a massive axe (Pl. XLVIII. 3) of a type that is represented also by a splendid specimen from Billa V, a stratum contemporary with Gawra VI. The broad and narrow socket (d. 45 by 25 mm.; h. 33 mm.) is slightly curved at the bottom and is equipped with flat collars at the top and bottom, and a flange or rib at the back. The blade has a broad cutting edge (98 mm.) and is straight and ledged at the top; it is raised above the top of the socket, instead of being flush with it as is the case with all the remaining axes and adzes from our site. This particular feature and the sharp curve of the lower edge of the blade combine to give the object a narrow bridge (29 mm.) which is strengthened by a median ridge, doubtless the result of being cast in a composite mould. By curtailing the size of the socket, the center of gravity has been shifted towards the cutting edge, a change calculated to insure for the object a maximum of efficiency. The total length of the axe is 188 mm.

c. Pick-head. Contrasting sharply with the heavier objects just described is a miniature pick-head (Pl. XLIX. 3), only 62 mm. in length, intended obviously for delicate work. It was found as part of the modest hoard from R. 649, together with the adze discussed above. The tubular collars of the shaft-hole form two opposed semicircles, a practical feature of the implement being thus utilized for purposes of decoration as well.

Knives and Daggers. This is a comparatively small group requiring little comment. No examples from Str. VIII are available, but there are three specimens from Str. VII, six from Str. VI, one from V, and another one from Str. III. The illustrations on Pls. XLVIII. 11 and XLIX. 1 typify the whole class. The blades are flat and leaf-shaped in contour. The tangs of the heavier specimens were perforated for hafting (cf. Pl. XLIX. 1).

Spear. This object corresponds to the type known from the Ur

⁸ See UC. 309 and Pls. 229-30.

cemeteries which Woolley has subtitled "pike-heads."⁹ It is not illustrated in this work, being in a very poor state of preservation. Some interest attaches to it, however, on account of its potential comparative value. Several fine specimens of the same type are known from Billa *V* (the correspondence with Gawra *VI* is valid throughout), one of them inscribed with an archaic character of the Early Dynastic period.

Spear- and Arrowheads (cf. Pl. LXXXII. 21). This class is again a small one, and none of the examples antedates Str. *VI*. Both types are leaf-shaped, but the arrowheads are centrally ribbed whereas the spearheads are flat. The scarcity of metal weapons of this type is not at all accidental. The real reason for it was the preference of the Gavrans for corresponding objects of flint and obsidian, which were discovered in considerable quantities as late as Str. *IV*. In this one respect at least stone was to maintain its superiority over copper for some time, and the local artificers were practical enough not to be guided by the prevailing metal fads against the dictates of both economy and efficiency.

Sickles (Pl. XLVIII. 1-2). This time Str. *VI* furnishes nearly all the examples of the type. A fragment of a sickle was picked up in *VIII-C* (where it may be intrusive) and one complete specimen was found in *IV*; but no less than twenty whole sickle-blades come up in Str. *VI*, although several of them had been bent out of shape. The average length may be set down as 250 mm., and the blades are from 40 to 55 mm. wide. At times one end was perforated for hafting, but more frequently the tang was hafted directly into the handle.

Razors. The specimen shown on Pl. XLIX. 2 has a broad and thin blade and a narrow tang. The type is rare, but the close parallels from the Ur cemeteries should not be overlooked.¹⁰

Chisels. Once again we are confronted with a large group of copper objects, including several well marked types. In one or two cases the term has been used in a broad sense, in preference to setting up further subdivisions.

Most common is the type of chisel in which approximately the same width is maintained throughout, except for a slight splaying of the cutting edge (Pl. LXXXII. 2). Such chisels may be rectangular, square, or circular in cross-section. They are encountered as low as Str. *VIII* and as late as Str. *III*. The specimens range from 290 to

⁹ *Ibid.* 303.

¹⁰ *Ibid.* Pl. 231; cf. also the specimens from the Ishtar Temple of Ashur *G*, *As.* p. 41.

57 mm. in length. In a few instances (Pl. XLVIII. 6) the butt had been flattened into a smooth head with sides curled under. In another fairly common type the tools are widest towards the middle. The tapering top may be intended for hafting, being thus properly a tang. In such cases the handles were no doubt of wood, but tangs with square butts were hafted in bone (Pl. LXXXII. 3); the tool was then used as a graver. Among the tanged examples one is octagonal in cross-section (Pl. LXXXII. 1). That all the specimens with flattened tangs had been intended for hafting is far from certain. In fact, some of these chisels appear to have been used at both ends (cf. Pl. LXXXII. 5); they are scarcely different from modern two-way graters, and they could have been used to advantage in the engraving of cylinder seals, especially of those that were made of bone, steatite, and soft marble.

Still another type, also well represented, is characterized by a flat blade which widens toward the perceptibly curved cutting edge (Pl. XLVIII. 4, 8). In one instance the butt is perforated for suspension. A better term for at least some of the thirteen specimens of this class (twelve from Str. VI and one from Str. V) might be "blade-axe"¹¹ or adze. Among the related types the two found at Mohenjo-daro deserve special mention.¹²

Needles. This class of household objects greatly exceeds in number any other type of metal implements unearthed at Gawra. More than one hundred intact specimens were found in Str. VI alone, and the popularity of these objects may best be judged from the fact that even so copper-shy a layer as Str. VIII yielded eight needles in good condition. Naturally, there are considerable variations as to length and thickness (cf. Pl. XLVIII. 7, 10, 12). With but few exceptions (in the case of broad-headed specimens), the eyelets were formed by hammering down one end to a fine wire and then bending it over and closing the loop by further hammering. This work was often done so well that the method is not immediately detectable, the eyelets appearing to have been pierced.

Awls. The number of specimens which we have classified as awls is two from Str. VIII and fourteen from Str. VI (cf. Plates XLVIII. 5, LXXXII. 4). Some of the graters which we have classed with the chisels may perhaps be included with the present group.

Nails and Hooks. This is a somewhat heterogeneous group, in-

¹¹ Cf. M-D. II. 494 ff.

¹² Ibid. 495.

cluding ordinary nails with flattened heads, heavy nails with one end rolled, smaller nails of the same category (Pl. LXXXII. 14), and the hooks and holdfasts illustrated on Pl. LXXXII. 7-11. Of these latter, Figs. 7 and 9 are properly cotter pins, and Fig. 8 (from Str. IV), which is twisted at the bottom into coils, may be a modification of such a pin; several similar specimens are known to us from Billa IV, which dovetails chronologically with Gawra IV. I can offer no satisfactory explanation of Nos. 10-11.

"*Frying Pan*" (Pl. LI. b). This splendidly preserved piece, measuring 225 mm. in length and having a maximum bowl diameter of 112 mm., was found on the floor of R. 609, together with several adze-heads. The bowl has an offset disc base, and the handle is rolled at the end. What is especially noteworthy about the utensil is the fact that the object was raised from a single sheet of metal, the whole being in one piece. The present condition of the object testifies in a way to the excellency of its workmanship; though hammered and not cast, it had not a crack to show under its thin layer of incrustation, although for nearly five millennia the object had lain unprotected on a hard floor under a heavy mass of debris.

Tongs (Pl. LI. a). This object calls for no special description. It is 425 mm. in length and was found on the floor of R. 643.

Ferrules. Two objects of this type (cf. Pl. LXXXII. 18) were found in Str. VI and one each in Str. V and Str. IV. The latter two specimens are equipped with irregular perforations. The examples from Str. VI are plain and they may have been used for butts of lances or spears.

Turning now to ornaments and toilet articles, we may begin with a large group represented in practically all the metal-using levels of Gawra, that of

Pins. Several types may here be distinguished. The most popular one is circular in cross-section and widens gradually towards the top. It has a knobbed head and an eyelet pierced not far below it (Pl. L. 8). A glance at the table at the end of this chapter will show the wide distribution of this type; Str. VI alone supplied nineteen whole specimens.

A more elaborate variant of the same general class is illustrated on Pl. L. 1. Here the cross-section is rectangular and the head may best be described as vase-shaped. Four of the five examples of this subdivision are early, coming from Str. VI, but the illustrated piece was found in R. 517. In later periods the shaft was pierced just below the base of

the vasiform head and a ring of the same material as the pin was inserted through the hole; examples of this type are known from Billa *IV*, the finest one, a large silver specimen, coming from a well furnished tomb. Gawra too must have had its share of elaborate ornaments of metal. If the ordinary finds from the occupation debris may be used as a criterion, the necropolis of Gawra *VI* should prove a rich mine in more ways than one.

Heads were also formed by flattening and coiling the end of the shaft, with resultant simple loops as, e. g., Pl. LXXXII. 16 (Str. *VII*), or such intricate knots as are shown *ibid.* 13 (Str. *V*). Or else the top was ornamented with rows of grooves; cf. Pl. L. 11 (Str. *VI*).

In all of the above types the shaft and the head are of the same material and in one piece. We have also, however, isolated instances where other materials are introduced in the form of ball heads. In Fig. 12, Pl. LXXXII, the head is of lapis; this pin was found in the liwân of the Eastern Temple and is, curiously enough, the only example in this whole class from Str. *VIII*. Similar ball heads have been found without the original copper shafts, but with traces of the metal still adhering to the shaft-holes.

As a special subdivision of this group may be listed the peculiar *Hairpins*, which are represented by three complete examples from Str. *VI* (cf. Pl. L. 4) and four from *V*, besides a number of damaged pieces. They were probably feather holders, tapered down to a point at the end to be placed in the hair and with the broad end curled over into a tube in which the feather was to be inserted. The type is known to occur in a simpler form in the Caucasus and the Danubian regions as well as at Ur.¹⁸ What endows the Gawra examples with additional interest is the forking of the outside part so that the ornament becomes a double feather holder. In one instance the slit was made as usual, but the forks were not spread apart, owing perhaps to the fear of breaking this particular specimen. Incidentally, several of these ornaments came up with one holder missing.

Bracelets and Anklets. With the exception of one bracelet from Str. *VIII* and two from Str. *V*, all the specimens of this type were unearthed in Str. *VI*. They were all hammered in the round out of pieces of wire varying in thickness. The ends of the bracelets overlap as a rule; cf. the two child bracelets on Pl. L. 12-13. Only in four out of

¹⁸ Cf. Frankfort, *ASP.* Fig. 7.

seventeen cases have the ends been found open (cf. Pl. L. 10). With the anklets, on the other hand, this norm is, not unnaturally, reversed. The ends are locked here only in the fine snake anklet illustrated on Pl. XLIX. 4; in the other six examples the ends are well apart. The bracelets are circular in shape, while the anklets are more or less definitely ovoid.

Rings. This group offers little that may be of special interest. All our examples are confined to levels VII and VI. The finger rings are made either of flat strips of copper or of rounded copper wire, the ends closely touching; only in one instance do the ends overlap. Figs. 23 and 24, on Pl. LXXXII (the former pulled out of shape) seem to represent a specialized type of hair ring; these parallel in the extent of their distribution through the ancient world the feather holders which have been discussed above. To the same group belongs a fine gold ring, triply coiled (Pl. LIV. b. 1) from Str. VI. It has been listed with the beads and ornaments because the present account is restricted to objects made of copper alloys. Finally, Str. VI yielded fragments of three earrings made of thin copper wire, with ends overlapping and a pronounced bulge in the lower part.

Toilet instruments. Both toilet sets illustrated on Pl. L (Nos. 5 and 6) came up in Str. VI. The larger one now contains three pieces hanging from a ring that had come open; one or more pieces may thus be missing. The parts may be identified as an ear-scoop, tweezers, and a spatula or kohl stick respectively. The tweezers have lost little of their original resiliency. The other two pieces have closely grooved handles, a detail of decoration which is achieved in other specimens of similar nature (cf. Pl. LXXXII. 17) by hammering the upper end into a long wire which is then wound into a series of coils. The smaller set consists of four pieces (ear-scoop, spatula, point, and paint-stick), all with plain handles.

Among the individual toilet instruments tweezers are particularly prominent not so much on account of their numbers as by reason of their uniformly excellent state of preservation. Of our eight registered specimens (cf. Pl. L. 3), six are from Str. VI, and one each from Str. VII and Str. V respectively. All were hammered into shape out of long strips of copper. They are well made, though plain, and in each case the original temper has been retained. They average 80 mm. in length.

Animal representations. With the exception of two fragmentary figurines of quadrupeds, this group consists entirely of copper serpents.

As many as twelve of these were found in Str. *VI* in addition to two from Str. *VII* and three from Str. *V*. The question as to whether these figurines were votive or merely toys must be left unanswered. The prevalence of such snakes might indicate that these objects were not entirely devoid of ritual significance. On the other hand, Str. *VI*, which furnished most of these objects, was in no way whatever a religious center; and although Str. *V* was dominated by a shrine, it yielded only three representations of serpents. The problem is further complicated by the fact that serpents moulded in relief occur on the surface of vessels from Str. *VII* to Str. *IV*; there can be no doubt that in these particular instances we are dealing with cult objects. But is the analogy from pottery objects necessarily instructive in the case of unattached copper serpents? Are the latter also chthonic in character, representing the fecundizing powers of nature? This was no doubt the case originally; it appears likely, however, that a secondary, and this time decorative, significance attaches to our copper figurines.

In most cases the serpents are made of thick copper wire fashioned into a wavy line (Pl. L. 2, 14), one end flattened or slightly bulging to indicate the head, which is marked in addition by transverse incisions. Flat strips of copper were also employed for the same purpose, widened at the head, which was then raised upwards as if ready to strike.

The two fragments of copper quadrupeds mentioned above consist of a carefully modelled antlered head (Pl. L. 7), characterized by painstaking attention to detail, and of the hindquarters of a short-tailed animal (Pl. LXXXII. 27). The break in the latter case is a fortunate circumstance in that it allows us an insight into the methods employed in the manufacture of such objects; they were fashioned about a narrow core of bitumen which was encased, in the present instance at least, in a metal covering of generous thickness, the whole yielding a fairly squat model. The proportions were altered, no doubt, when more graceful types were desired.

Varia. A very curious class of objects is represented by the specimen shown on Pl. L. 9. These objects are globular in shape, being made of two hemispherical parts of thin copper pierced in the center, each fitted over a bitumen core; the halves were then stuck together, the whole piece becoming solid except for the central shaft-hole that runs through the whole knob. The average diameter is 60 mm. The complete set was held together originally with the aid of this bitumen core, but in the course of time many of the pieces had fallen apart. Of the

eight intact sets that have been unearthed, six are from Str. *VI* (all from R. 612), one from Str. *V*, and one from Str. *IV*. I would suggest tentatively that they were used as knobs on canopy poles.¹⁴

Str. *VI* produced another curious group of specimens (not illustrated) consisting of five discs of thin copper with an average diameter of 80 mm. Each piece has four small holes spaced evenly around the border. Again it is difficult to make a convincing suggestion as to the original use of these objects. They look like balance plates, but may have been used as mirrors; perhaps they were attached as ornaments to garments or even to pieces of furniture.

The ornament illustrated on Pl. LXXXII. 28 comes from Str. *VIII*. It is made of a very thin sheet of copper, 28 mm. in diameter, and the decoration upon it consists of simple curvilinear figures, ovoid for the most part, arranged into concentric circles. These figures are embossed. Since the object is too fragile to be treated chemically, we have no means of telling how it was attached to the surface which it originally adorned; possibly it served as a piece of inlay decoration.

Of the objects that remain to be described two present no problem whatever. Pl. LXXXII. 6 (Str. *IV*) shows a delicate cutting instrument, evidently a scalpel. The main reason why it has not been listed with the chisels is that it would have been lost in that large and somewhat unwieldy group. Pl. LXXXII. 26 shows a stone weight suspended from a large copper ring.¹⁵

Pl. LXXXII. 20 (Str. *VI*) seems to defy all attempts at classification. In its present shape this piece could scarcely have been used for anything practical. Perhaps we have here merely the overflow from some casting mould or, even better, the cut off edge left over after the object in question had been hammered into shape.

Lastly, it may be of interest to note that four lengths of unworked wire were found in Str. *VI*, and that one plain bar of copper (95 by 21 by 8 mm.) came up in Str. *VIII* and another one (144 by 43 by 30 mm.) in Str. *VI*.

¹⁴ We might compare with these objects the Mohenjo-daro shell caps illustrated in *M-D.* III. Pl. clvi. 13, 16-18, and described *ibid.* II. 479. They, too, consist of two pieces which fit closely together; the hole, however, is between the halves and not across as in the Gawra metal specimens. The use of the Indus examples is unknown, and our reference is very much in the nature of an attempt to explain *ignotum per ignotius*.

¹⁵ See above, pp. 93 f.

The following summary which is based, as I have indicated, on the registered specimens only, gives an adequate picture of the nature and frequency of the copper objects from Gawra and their distribution throughout the several strata under discussion.

<i>Nature of Object</i>	<i>Number per Stratum</i>							
	<i>VIII</i>	<i>VII</i>	<i>VI</i>	<i>V</i>	<i>IV</i>	<i>III</i>	<i>II</i>	<i>I</i>
Adze-heads .....	..	..	14	..	..	1	..	..
Axe-heads, plain.....	..	..	2	..	..	..	..	..
ribbed.....	..	..	1	..	..	..	..	..
Pick-head .....	..	..	1	..	..	..	..	..
Knives and daggers.....	..	3	6	1	..	1	..	..
Spear .....	..	..	1	..	..	..	..	..
Arrowheads .....	..	..	2	3	..	..	..	..
Spearheads .....	..	..	6	2	..	..	..	..
Sickle-blades	1	..	20	..	..	1	..	..
Razors .....	..	..	1	..	..	1	..	..
Chisels, wide (adze-) blade.....	..	..	12	1	..	..	..	..
approximately equilateral or circular in cross-section.....	4	4	26	..	2	1	..	..
octagonal .....	..	..	1	..	..	..	..	..
with bone handle.....	..	..	1	..	..	..	..	..
Needles	8	19	107	17	2	1	..	..
Awls	2	..	14	..	..	..	..	..
Ferrules .....	..	..	2	1	1	..	..	..
Tongs .....	..	..	1	..	..	..	..	..
Frying pan.....	..	..	1	..	..	..	..	..
Nails, with flat heads.....	1	1	2	1	2	..	..	..
with curled heads.....	..	..	5	..	..	..	..	..
Hooks, plain.....	2	2	9	2	..	..	..	..
other holdfasts.....	..	..	3	..	1	..	..	..
Pins, eyeleted, with knobbed heads....	..	3	19	2	2	1	..	..
with vasiform heads.....	..	..	4	1	..	..	..	..
with grooved head.....	..	..	..	1	..	..	..	..
with rolled heads.....	..	1	1	..	..	..	..	..
with lapis ball head.....	1	..	..	..	..	..	..	..
feather-holder hairpins.....	..	..	3	4	..	..	..	..
Bracelets, ends open.....	..	..	2	2	..	..	..	..
ends overlapping.....	1	..	12	..	..	..	..	..
Anklets, ends open.....	..	..	6	..	..	..	..	..
ends locked (snake anklet)...	..	..	1	..	..	..	..	..

<i>Nature of Object</i>	<i>Number per Stratum</i>							
	<i>VIII</i>	<i>VII</i>	<i>VI</i>	<i>V</i>	<i>IV</i>	<i>III</i>	<i>II</i>	<i>I</i>
Rings, flat in cross-section.....	..	5	3	..	..	..	..	..
circular in c.-s.....	..	1	6	..	..	..	..	..
ends overlapping.....	..	..	1	..	..	..	..	..
coiled (hair-rings).....	..	..	2	..	..	..	..	..
earrings .....	..	..	3	..	..	..	..	..
Toilet sets .....	..	..	2	..	..	..	..	..
kohl stick								
tweezers .....	..	1	6	1	..	..	..	..
Animal figurines								
snakes .....	..	2	12	3	..	..	..	..
quadrupeds .....	..	..	2	..	..	..	..	..
Knobs with bitumen cores, complete								
sets .....	..	..	6	1	1	..	..	..
Balance plates (?) .....	..	..	5	..	..	..	..	..
Embossed ornament.....	1	..	..	..	..	..	..	..
Unclassified	1	..	1	..	..	..	..	..

6. BONE OBJECTS

(Plates LII; LXXXII. 15, 25)

Bone work, with which we may group our few ivory pieces, seems to have been affected by the introduction of copper to a greater extent than any other industry. Comparatively popular in the earlier layers of Gawra, implements and ornaments of this material are clearly on the decline in Str. VI and disappear completely thereafter. It is reasonable to assume, therefore, even though accidents of preservation must be taken into account, that metal work proved ruinous to the bone industry. Moreover, coincident with man's growing mastery over his materials, stimulated by the Copper age, there is witnessed in certain instances a preference for hard stone where bone had been employed frequently heretofore. We shall see that stamp seals of bone and ivory are more common than cylinders made of the same materials. The great antiquity of the flat type of seal may safely be held responsible for this situation. It is significant, at all events, that our only cylinder seal of bone comes from Str. VII, the earliest occupation in which roller seals were found at Gawra.

Apart from the seals, bone work has also been mentioned in connection with copper tools (cf. Pl. LXXXII. 3), beads, and pottery smoothers. The remaining objects include an assortment of awls, pins, bodkins and needles, whorls, and a few miscellaneous pieces. A brief account of some of these specimens may be of interest. Pl. LII. b. 2 represents a roughly worked spoon, 90 mm. long, found in Str. VI. No. 3 shows an awl of a type sufficiently common to require no further description; the piece was found in a trial trench at a level antedating Str. VIII. Nos. 1 and 5 are needles from Str. VI; the latter is complete, sharp-pointed, and is 111 mm. long, while the other one, now measuring 97 mm., had been broken and repaired. The same level yielded the polishing tool or scraper shown as No. 4; its dimensions are 95 by 21 mm.

Turning now to Pl. LXXXII, Fig. 15 shows a highly polished ivory pin from Str. VIII, broken and repaired; it measures 111 mm. in length. The head is in the form of a small knob, and the decoration consists of incised lines arranged in bands and herringbones.

There remain to be described two objects of uncertain use. Pl. LXXXII. 25 shows a peculiarly shaped piece from Str. VI, measuring 52 mm. in length. It is beautifully finished and highly polished. In form it resembles a spoon with a normal handle and angular bowl, in which we find, however, a well-cut hole 12 mm. in diameter. The careful workmanship would suggest an ornament or some object of ceremonial significance, but neither explanation appears to be satisfactory.

Pl. LII. α presents another problem. The object was found in R. 826 and it measures 111 by 24 mm. The bone work is not particularly smooth, but the importance of the object is attested by its inlay consisting of six round pieces of turquoise set in three pairs and spaced along the outer surface. No traces of use could be detected.

Finally, a fragment of an ivory comb from Str. VI may be mentioned in passing. Recent reports from the field indicate important finds of bone and ivory in the lower levels of Gawra, bearing out the contention that the industry flourished in the prehistoric occupations.



7. SEALS AND SEAL IMPRESSIONS

(Plates LV-LXI)

In common with other ancient sites Gawra has furnished abundant evidence of the importance attaching to seals throughout the excavated settlements of the mound. The number of specimens illustrated in this volume will be considered large when it is remembered that these seals and seal impressions were not found in protective burials, but were discovered loose, in the occupational debris of a frequently rebuilt site. We have reproduced twenty-nine roller seals or cylinders, fifteen stamp seals, and twenty-seven impressions on clay sealings. The manner of reproduction calls for a brief explanation. Direct photographs are undoubtedly the most satisfactory medium in such cases. Unfortunately, however, not all of our seal impressions are well preserved; the contents of some of them had to be pieced together from a series of sealings. Photographs are of little practical value in such cases, but careful drawings may give a correct impression of the originals. Having been compelled to follow this method in a number of instances, we have extended it also to the remaining specimens for the sake of consistency. All the drawings have been carefully checked and rechecked. Economy of space prevented the inclusion of photographic duplicates, save for two cases (Pl. LV) that were deemed especially significant.

It is generally agreed that glyptic remains are an invaluable source of information as regards the cultural background of a given archaeological period. As chronological criteria seals are not far behind pottery in importance. To be sure, owing to the greater durability of the material out of which seals are generally cut, the average term of use is far longer with glyptic pieces than it is with ceramic fabrics. Moreover, seals are frequently valuable enough to be carried, as purchases or as loot, considerable distances away from the places of their origin, a contingency that may ramify their value as witnesses of local cultural trends. In such cases, however, the danger of possible confusion is minimized by the internal evidence of the specimens, such as shape, style, and contents. The rapidly growing literature on the subject has made of late extensive use of such criteria, particularly where objects of uncertain provenience are concerned.¹ In addition, recent excava-

¹ For a recent work of this kind see H. H. von der Osten's *Ancient Oriental Seals in the Collection of Mr. Edward T. Newell*, University of Chicago Press, 1934. A com-

tions have supplied important and urgently needed stratigraphic data. Nevertheless, many obscure points still remain to be cleared up, and the plainly stratified material from Gawra should prove of some help in this respect.

Of the two main classes of Near Eastern seals, the stamp seal is demonstrably older than the cylinder. Where both types are encountered, the stamp is the first to appear, to be followed and often supplanted by the cylinder. The introduction of the latter is almost universally attributed to Lower Mesopotamia, while the popularity of the stamp is best attested in the neighboring highland regions. The stamp seal was probably developed out of actual buttons; the term "button seal" would thus be historically correct. The roller seal is said to go back to cylindrical beads used as amulets.² The original function of both types was the identification of property marked with the given seal. It may be added that parts of dress are known to have been fully as important as amulets in representing the wearer's personality,³ a fact which may have stimulated greatly the spread of the "button seal."

The chronological priority of the stamp seal as against the cylinder is not convincingly established as yet for all areas. This is true to a certain extent even of Sumer,⁴ to judge from the material published thus far. In Uruk, e. g., both types are found side by side in the topmost archaic strata. It is very likely, however, that this balance will be upset by future and more intensive work in the lower levels. Ur is reported to have yielded large numbers of stamp seal impressions in the strata underlying the main cemeteries. The forthcoming publication of this

prehensive bibliography will be found in Mrs. E. Douglas van Buren's *The Flowing Vase and the God with Streams* (Berlin, 1933), pp. vii-xiv. Since the appearance of this book we have had complete or partial publications of excavated material from Ur, Uruk, Telloh, Tell Asmar, Khafaje, Seleucia, and Nineveh, not to go outside Mesopotamia. The peculiarities of Cappadocian seals have been ably discussed by A. Moortgat in his *Bildende Kunst des Alten Orients und die Bergvölker* (Berlin, 1932), pp. 16 ff., and E. Herzfeld has furnished a penetrating analysis of stamp seals in *AMI*. V. 49 ff. There is also a welcome increase in discussions of selected topics of the glyptic repertoire.

² Cf. Herzfeld, *loc. cit.* 53.

³ For the importance of the *sissiktu* "hem of garment" as a symbol of and substitute for one's personality see now especially Paul Koschaker, *Über einige griechische Rechtsurkunden aus den östlichen Randgebieten des Hellenismus*, Abhandlungen der Philologisch-historischen Klasse der sächsischen Akademie der Wissenschaften, XLII. 115 ff.

⁴ Contrast e. g., the statement of Herzfeld "Für Babylonien darf ein bedeutender Zeitunterschied zwischen den Anfängen beider Siegelformen nicht angenommen werden," *loc. cit.* 52, with that of Mallowan, "In the south the stamp-seal invariably antedates the cylinder-seal," *AAA*. XX. 137.

material will, no doubt, place the proper glyptic sequence in Sumer beyond any possibility of dispute.

But for the districts to the northwest of Sumer, in the Middle Tigris valley, this problem of type sequence is clearly settled with the aid of the Gawra seals. A glance at the appended catalogue will show that no cylinder seals have been found below Str. *VII*, and that no stamp seals were recovered above this level. From Gawra *VIII* down stamp seals alone are encountered, while cylinders have the field to themselves from Gawra *VI* up. Only in Gawra *VII* do the two types occur side by side, plain evidence that the stratum in question was one of transition, representing a period when the cylinder first invaded the region; by the time of the following stratum the stamp had been driven out completely. This clear-cut division imparts to our seals an outstanding chronological significance.

Before we proceed to a description of the illustrated specimens one more general remark may be in order. It will be noted that there are few seals older than Str. *VIII*, or later than Str. *VI*. This is due partly to the limitations of our excavations and partly to the nature of the upper strata. It will be remembered that at the conclusion of the third campaign our dig had progressed as far as the beginnings of Gawra *VIII*. Whatever earlier material we possess comes from our trial trenches, a necessarily scanty yield. On the other hand, the settlements which followed Gawra *VI* were limited in area, with a consequent decrease in objects and their all but complete cessation from Gawra *III* on to the top.

The catalogue which follows is divided into two main groups, dealing respectively with stamps and cylinders. The subdivisions are dictated by the contents of the seals. The numbers of figures are consecutive throughout. Unless otherwise stated, the seals proper are negative, the impressions positive. The brief descriptions indicate shape (in Group A),⁵ material (the impressions will be understood to be on clay), measurements, provenience (stratum, and room or square), field number, present location, and design. Since most of the Gawra cylinders are regular in shape, only the departures from this norm will be noted. In the measurements of stamp seals the first (or sole) measurement indicates the largest diameter. In the case of rectangular or irregular seals a second dimension of the impression or stamping sur-

⁵ I have followed in the main the terminology of D. G. Hogarth as used in his *Hittite Seals*, Oxford, 1920.

face has been added. The height or thickness of the specimen (unless it is a seal impression) is given last. With regard to cylinders, the order of measurements is always diameter followed by length. Concerning location, B indicates that the specimen in question is in the Iraq Museum, Baghdad, P refers to the Museum of the University of Pennsylvania, and D to the Dropsie College of Philadelphia.

In describing the designs only general and approximate animal classifications have been attempted. Within the limited number of representations available several stylistic schools may be distinguished, each displaying a different attitude toward the subject portrayed. Moreover, there is here some divergence with regard to age, and our seals, it will be remembered, are not always in the best state of preservation. In these circumstances an occasional "quadruped" proved inevitable, and such designations as "antelope," "ibex," or "dog" (not always free from question marks) have been used as elastic terms, calculated to cover even a greater variety of specific types than the ancient seal-cutter managed to crowd into his miniature worlds.⁶ It may be remarked parenthetically that an exhaustive study of the physical background of ancient animal art, based on comparison of all the available sources, would be certain to receive a warm welcome from archaeologists.

The catalogue is divided into two main groups in accordance with the principal differences in application between the two main types of the glyptic family.

A. STAMP SEALS AND IMPRESSIONS

a. Unstratified

1. Foot-shaped stamp: black diorite. 39 by 15 by 20.5 mm. M 13. (Str. XIII or XIV). 1192. B.
Ibex, mouth open, before a conventionalized tree (?) lying on its side, in a tectonic arrangement.
2. Discoid: black diorite. 22 by 20.5 by 5 mm. M 12. (Str. X or XI). 1027. P.
Hind amidst chevron and cuneiform fill-ups, which probably represent vegetation.
The above two seals came from levels not reached as yet by regular excavation.
3. Gable: pink marble. 38 by 29 by 10 mm. Picked up by a villager prior to the 1927 season, hence without field number. Probably Str. VII, which yielded the only other definitely gable-shaped seal (Fig. 16). P.
Two human figures, vertically opposed, facing toward center. Legs spread, bent

⁶ I am indebted to my colleague, Prof. J. P. Moore, for checking the identifications of animals attempted in this chapter; but I alone am responsible for the imperfections that have remained.

downwards at the knees. Arms bent at the elbows, right ones up and left ones down. Left arm of upper figure crosses knee.

b. Geometric Designs

4. Hemispheroid: mottled red stone. 25 by 12.5 mm. *VIII*, K 5. 5859. B.
Irregular geometric pattern.
5. Stalk-shaped stamp: terracotta, buff ware; one half missing. 47 by 23 mm. *VIII*, O 7. 5480. B.
Irregular palmette or spoke design.
6. Hemispheroid: terracotta, badly burned. 19 by 7.5 mm. *VII*, loose. 5435. P.
Two handle-shaped figures, back to back. Perhaps animal motive conventionalized beyond recognition. Reversible type.
7. Conoid: terracotta, grey ware. 37 by 26 mm. *VII*, Q 6. 5317. P.
Well balanced curvilinear pattern, but meaningless at present. Possibly some conventionalized naturalistic group and fill-ups.
It is worth noting that the last two seals, whose designs may represent a degenerate form of naturalism, date from the end of the stamp period at Gawra.

c. Single Animals

8. Seal impression; roughly rectangular. 19 by 18 mm. *VIII*, M 4. 5824. B.
Ibex in course to right.
9. Seal impression: circular. 19.5 mm. *VIII*, M 9. 1099. P.
Ibex advancing to left.
10. Seal impression: roughly circular. 17 mm. *VIII*, O 10. 6096. P.
Ibex advancing to left.
11. Seal impression: irregularly circular. 16 mm. *VIII*, R. 812. 5612. P.
Antlered quadruped in course to left.
12. Seal impression: rectangular. 17 by 16 mm. *VIII*, R. 801. 5495. P.
Goat in course to left.
13. Seal impression: roughly circular. 29 mm. *VIII*, Q 6. 5907. P.
Mouflon, cut in the best naturalistic style, in course to right. Fill-up in front may be manger.
14. Small plaque: ivory. 13 by 10 by 5 mm. *VII*, O 8. 5396. P.
Hare in course to left.
15. Seal impression: irregularly circular. 22 mm. *VIII*, M 9. 6079. P.
Gazelle running to left, head turned back. Fill-up over body probably represents a bird in flight.
16. Gable: bone. 21 by 21 by 7 mm. *VII*, M 7. 5432. B.
Antlered quadruped, outlines worked with the drill. Less plausible is the interpretation of the design as consisting of two opposed animals, one standing and the other crouching.
17. Seal impression: circular. 19.5 mm. *VIII*, M 8. 1072. P.
Antelope, crouched, facing left. Irregular fill-ups on border.
18. Seal impression: ovoid. 20 by 15.5 mm. *VIII*, Q 5. 5863. P.
Long-horned ibex, crouched before a shrub, facing right.
19. Seal impression: ovoid; upper edge missing. 22 mm. *VIII*, Q 6. 5908. P.
Antelope running (?) to right. Three rounded fill-ups over body. The missing upper part may have contained another animal.

d. Groups of Animal and Serpent

20. Seal impression: circular. 35 mm. *VIII*, M 9. 5945. B.
Ibex, roughly worked, in course to left. Serpent overhead.
21. Irregular plaque, unbored: steatite. 14.5 by 13 by 7 mm. *VII*, O 8. 5433. B.
Rough representation of a quadruped with serpent (?) behind.

e. Animals Superposed

These groups consist of two quadrupeds, with or without a serpent.

22. Seal impression: circular. 20.5 mm. *VIII*, R. 812-B. 5643. P.
Quadruped moving to right, ridden by a long-tailed ichneumon (?).
23. Seal impression: circular. 25 mm. *VIII*, R. 804. 1660. B.
Ibex advancing to right towards a raised trough (?). Overhead a running dog.
Egg-shaped fill-ups.
24. Seal impression: circular. 33.5 mm. *VIII*, K 8. 5784. P.
Bull (?) moving to right. Overhead smaller quadruped (dog?) topped by a serpent. Irregular fill-ups.
25. Hemispheroid: ivory, well polished. 28.5 by 29 by 9 mm. *VII*, O 8. 5329. P.
Boar, head between two trees, in course to left, topped by a smaller one moving in the opposite direction. From the ground, behind the lower animal, rises a serpent. The composition is beautifully balanced. At right an arrow-shaped fill-up corresponds to the head of the serpent below, the side counterbalancing the trees on the left.

f. Animals opposed, reversible style

26. Seal impression: circular. 42.5 mm. *VIII*, M 9. 6077. P.
Two dogs (or lions?), crouched, opposed head to tail. Between them serpent moving to right.
27. Seal impression: rounded. 44.5 by 39 mm. *VIII*, M 9. 6078. P.
Two ibexes opposed head to tail. Between them a serpent winds to right through the open space, the whole group making a splendid pattern.
28. Seal impression of a plaque, one edge missing. 47 by 36.5 mm. *VIII*, Q 6. 5911. B.
Two ibexes opposed head to tail. Arrow- and dagger-shaped fill-ups.
The well serrated border of this impression marks its original as a plaque, of which type we have excellent examples in Figs. 29 and 30.
29. (= Pl. LV. a) Plaque, perforated breadthwise: ivory, back reinforced with inlaid shell along line of bore. 67 by 46 by 12 mm. *VIII*, O 5. 5917. P.
Two ibexes opposed laterally (head to foot). Each animal turns back its head towards an attacking cattle heron (?). Irregular fill-ups, including what may be dagger and arrow (or bucranium). Border made up of deep serrations.
This plaque is remarkable not only for its unusually deep engraving and excellent workmanship, but especially also for its motive of a quadruped turning its head back towards a tormenting bird. Cf. Fig. 15.

g. Animals crossed

30. Fragment of plaque, evidently broken at line of perforation: bitumen. 49 by 11 mm. *VII*, M 10. 5315. B.
Hind facing right crossed lengthwise with serpent. Serrated border and two additional rows of serrations at base.

Although it clearly belongs to this class, the above specimen is not as characteristic of it as are the ones that follow. The present arrangement was dictated in part by the need to provide a suitable connection with the preceding group.

31. Seal impression: circular; lower edge effaced. 32.5 mm. *VIII*, M 9. 5944. B.
Two goats crossed at neck, horns interlocked. Vase or bucranium between legs and irregular fill-ups in the field.
32. Seal impression: rounded; left edge effaced. 48 by 33 mm. *VIII*, R. 804. 1661. P.
Two antelopes crossed at neck. Serpent coiled inside right border with the head of a similar figure in the damaged portion to left.
33. Seal impression: circular; edges missing. 38 mm. *VIII*, Q 9. 5642. P.
Two goats (?), antlers interlocked, crossed at neck. Figure above the horns appears to have been a serpent. Front part of a quadruped to left flush with the antlers.

b. Animals rotating

34. Seal impression: rectangular; one edge missing. 20 mm. *VIII*, M 9. 5955. B.
Four crouching dogs, heads at center, in clockwise rotation.
35. Truncated conoid: terracotta, buff ware. 32 by 15 mm. *VIII*, O 8. 5577. P.
Three indistinct animals, feet on a central globe, grouped round the circular base of the seal. Two fill-ups.

i. Miscellaneous groupings

36. Rectangular plaque: steatite. Designs at base and top, the first engraved and the other in relief. This is the only specimen of this kind from Gawra. 36 by 29 by 14 mm. *VIII*, O 8. 5576. B.
Base: Two antelopes in a row in course to left. Top: Ibex advancing to right.
37. Seal impression: circular. 31 mm. *VIII*, R. 804. 73. D.
Antelope and gazelle opposed tail to tail. Above them a jackal in course to right. A variety of fill-ups introduced to balance the composition.
38. Seal impression: rounded; reconstructed from four fragmentary individual impressions. 37 by 26 mm. *VIII*, M 9. 5594 a-d. P.
Short-horned bull standing over a manger. One lion has jumped on its back while another (in the customary attitude of bears) is crouched in front. A coiled serpent forms the upper inside border.
39. Fragment of seal impression: circular; right edge damaged. 37 mm. *VIII*, M 9. 5777. P.
Ibex advancing to right followed by a short-horned quadruped. Rest indistinct or missing.

j. Human figures

40. Seal impression: circular; left side damaged. 37.5 mm. *VIII*, O 10. 5789. P.
Male and female figure, opposed face to face, seated in center, their legs crossed in an erotic attitude. Two smaller human figures on the sides, facing right. Crouched quadruped overhead. Below part of a bench or bedstead.
41. (= Pl. LV. b) Seal impression: circular; borders damaged. 26.5 mm. *VIII*, M 9. 5943. P.
Bearded male figure, bent forward, facing right, closely followed by another human figure, apparently female, whose right arm seems to hold up the man in front. Behind them rises the figure of a serpent. Related representations from other

sites yield what is clearly an erotic scene.⁷ Against such an interpretation in this case appears to be the steatopygy of the second figure and its lack of definite male characteristics. But whatever the correct explanation, the combination of two human figures and a serpent is noteworthy and suggestive.

Our stamp seal material has now been covered. Before we proceed, however, to a description of the cylinders, a brief analysis of our results thus far will not be amiss. The designs have already been classified, and it remains only to attempt a statistical retrospect of the other elements. Inasmuch as all the specimens are prehistoric, and all but two (Figs. 1-2) come from two contiguous levels (*VIII* and *VII*), the following tabulation is likely to illuminate in several ways the background of a well defined archaic period.

With regard to shape, five of the fifteen stamp seals are rectangular plaques (14, 21, 29, 30, 36), while one is discoid (2). In addition, we have three hemispheroids (4, 6, 25), two conoids (7, 35), two gables (3, 16), and single examples of the stalk (5) and the foot (1). The seal impressions throw, of course, little or no light on the shapes of their originals. From the fact, however, that the bases are seldom rectangular (8, 12, 28, 34) one may perhaps deduce that gables were rare, the majority consisting of conoids and hemispheroids.

As regards material, we find among our stamp seals four of terracotta (5, 6, 7, 35), three of ivory (14, 25, 29), two of steatite (21, 36), the same number of diorite (1, 2), and probably also of marble (3, 4?), and single specimens of bone (16) and of bitumen (30).

Human figures appear in three instances (3, 40, 41). Of the animals, the serpent seems to have been portrayed with greatest frequency (20, 24, 25, 26, 27, 30, 32, 38, 41, and probably also 21, and 33). Various species of ibex and antelope figure quite prominently, as expected; they do not require and at times do not admit of a specific classification. Less common are members of the canine family, such as dogs or jackals (23, 26, 37). Single instances of the mouflon (13), the hare (14), and the wild boar (25) are comparatively clear. That the bull and the lion are rare is a little surprising; each figures with certainty but once, both, as it happens, on the same piece (38). Birds are infrequent (29, and probably 15). Trees and shrubs are equally uncommon (18, 25, and probably 1). Of the fill-ups there is the usual variety.

In passing it may be noted that the style of cutting is overwhelmingly linear, produced with the aid of such tools as the point and the

⁷ Cf. Herzfeld, *AMI*. V. Fig. 14, TG 2362, and p. 88.

disk. Little use seems to have been made of the drill, for there is only one example (16) of extensive drill-work; at that, the specimen is among the latest stamp seals from Gawra (Str. VII).

The evidence of these and the following seals for comparative purposes will be utilized in a later chapter.

B. CYLINDER SEALS

In this group we have twenty-nine seals of the roller type and one impression of such a seal. The arrangement followed here is based on somewhat different principles. In the preceding group we had a variety of designs from two consecutive strata; hence a typological grouping seemed more expedient than a stratigraphic one. In the present case there are specimens from five different layers; and although the great majority of our cylinders comes from Str. VI, a chronological arrangement is clearly more advantageous than any other. By reason of their peculiar shape the cylinders form a more compact group than the stamps, which include a wide range of secondary varieties as regards external characteristics. Moreover, early cylinders show in their pictorial contents much dependence upon Southern Mesopotamia, where indeed the type as such seems to have originated, whereas archaic stamp seals cannot be similarly derived from a single cultural area. In view of these facts we can scarcely do better than follow the stratigraphic method of classification.

a. Stratum VII

- 42. Bone; one half missing. 27 by 14 mm. Q 7. 5811. B.
Design too incomplete for interpretation. The piece is unique among the Gawra cylinders on account of its material and of the tool (tubular drill) with which the design was produced. Clearly the oldest specimen of this group.
- 43. Grey limestone. 31.5 by 11 mm. M 8. 5251. P.
Two registers. Upper: long-horned antelope nibbling at a pine-shaped tree. The partly damaged figure to left is not entirely clear (perhaps hunter). Lower register: two lions crossed and rampant attacking bulls (?) whose heads are forced back. The design is deeply and carefully cut.
- 44. Marble; slightly concave. Upper edge badly worn. 33 by 20 mm. K 7. 5475. B.
Spread-eagles and trees separated by festoons with cross-markings to represent mountains.
- 45. Alabaster. 22 by 12 mm. K 7. 5436. P.
Massive high boat, top of stern bent inwards. A deity seated upon a chair placed against the stern is approached by a suppliant, right arm raised in reverence and the left supporting a kid. To the right is a smaller figure, one hand on the prow. Outside, at each end, there is a cone-shaped object topped by a small circle, the whole representing perhaps some thin-necked vessel. The design is well balanced, but only

the bare outlines of the figures are indicated. This primitive seal may be the prototype of more elaborate examples of a later date (Early Akkadian period), which picture the passage of the sun god through the waters of the underworld.⁸ There the bent stern-top would be represented by a serpent's head while the vessels have been put inside together with other accessories. At all events, there can be little doubt that the present scene has a definite symbolical significance.

46. Black diorite. 32.5 by 11 mm. O 5. 5646. B.

Geometric design consisting of two concentric semi-circles connected by rows of parallel bars. A third semi-circle encloses irregular horizontal figures. Small concentric circlets (sun-circlets) at the base lend balance to the composition. The bars may derive ultimately from a fish motive, but their present spacing is due entirely to decorative requirements.

We have seen that Str. *VII* contains both stamp seals and cylinders and represents thus from a glyptic standpoint a period of transition. It is only natural that the cylinders of this period should have an archaic character, as measured by the standards established through finds from other sites. According to the same standards the seals from the immediately succeeding level should correspond to forms that are more advanced, but cover a limited period of time. This expectation will not be borne out to its fullest extent. The seals of Gawra *VI* are indeed of a later type in both style and contents; but they span also a longer glyptic period than would be associated in the south with a single stratum. The discrepancy is only an apparent one, however, since Str. *VI* was in point of fact a composite level representing more than merely an unaltered occupation. That the level of the site was not allowed to rise much with each addition was due, as we have seen, to the vital need of not reducing further the habitable area at the top. The final phase of Str. *VI* was thus considerably later than its forerunners, but the corresponding finds, particularly the less perishable ones such as seals and copper objects, reflect the civilization of the stratum as a whole. After this digression we are ready to survey the cylinders of

b. Stratum VI

47. Steatite. 22 by 6 mm. M 7. 1355. P.

An extraordinarily small and delicate piece, its deep engraving rendered all the more remarkable by the limited space. Ibex or antelope advancing to left. The style is really abstract. The curved outlines of back and horns form an all but completed circle filled by a sun-circlet and crescent in a very effective arrangement. A similar sun-circlet is placed under the animal's head, surmounted by two crescents which meet at the ends. Rolled out, the effect of the design is enhanced by the

⁸ See Frankfort, *Gods and Myths on Sargonid Seals*, *Iraq* I. 2 ff., and especially pp. 17-21.

- circumstance that the stellar figures appear framing the ibex at both ends, no doubt an intended result in a cylinder calculated for frieze-like reproduction. The legs are zigzag-shaped and two additional straight limbs in the center help to achieve perfect balance at the expense of anatomical verisimilitude. But so harmonious is the whole conception that the distortion is hardly noticed at first glance.
48. Marble. 18 by 10 mm. R. 681. 5105. P.
 Geometric curvilinear pattern consisting of the *torsade* and corresponding fill-ups.
49. Marble. 25 by 14 mm. R. 681. 5104. B.
 Spread-eagle between two antelopes arrested in motion. Wide-branched oak to left. Though the design itself is conventional, the individual figures on this perfectly preserved seal are done with a fine naturalistic touch.
50. Marble. 22 by 9 mm. R. 602. B.
 Another specimen with spread-eagle motive, partly damaged. The antelopes are recumbent and are opposed tail to tail, heads turned back.
51. Marble. 33 by 19 mm. R. 676. 5227. P.
 Two lions crossed and rampant attacking two antelopes, their heads forced back. To the left is the hunter-hero Gilgamesh, shown in profile and beardless, facing to left. He is nude except for a narrow girdle, and his hair comes down the back in a long pigtail. The extended arms reach the necks of the antelopes. Again we note the arrangement whereby the design depends for its full effect upon repeated rollings of the cylinder. Cf. Figs. 47, 49.
52. Marble. 38 by 26 mm. R. 681. 5103. B.
 Gilgamesh pictured as above, except that his girdle (?) is untied and slipping, stands between two rampant bulls seizing one by the tail while he strikes the other with his dagger. The bulls are attacked by rampant lions and are crossed with and attacked in turn by Engidu figures, horned but human-headed bulls, the one to the right being bearded. Details of musculature are prominently featured on this splendidly carved cylinder.
53. Grey limestone; slightly concave. 29 by 18 mm. R. 681. 5102. P.
 Nude hunter (bearded?) seizes by its fore legs an antelope attacked from the back by a rampant lion. To the right a rampant lion attacking an ibex. In this and the following examples the figures are no longer crossed.
54. Black limestone; slightly concave. 18 by 11 mm. O 7. 5226. P.
 Hunter, bearded and wearing a flat cap (the so-called Kish hero) in a short tunic that does not quite come down to the knees, facing a rampant bison which he seizes by its fore legs. Two stunted and conventionalized trees are intended to give the combat a sylvan background. A corresponding beast to the right.
55. Serpentine. 17 by 7.5 mm. R. 640. 1062. B.
 Nude hunter between two antelopes which are attacked from the back by rampant lions.
56. Black diorite. 39 by 21 mm. R. 649. 128. D.
 Three pairs of figures in combat. Central pair; bearded hunter wearing a short tunic, and girdle or sash, with a high woolen turban, opposing a rearing bison shown full face; all the remaining figures are in profile. Right: the Kish hero (like the preceding hunter except for the flat cap which replaces the turban) fighting a wild bull. Left: Engidu in combat with a lion. Two maces and a crooked club planted in the ground.

57. Serpentine; slightly concave. 31 by 18 mm. R. 649. 127. D.

Ea, god of the deep, on a cubic seat, facing to right. He wears a flat cap resting on a single pair of horns and a flounced robe draped diagonally, which doubtless conceals a vase from which rise the two streams shown on the seal. These abound in fishes which swim up the front stream and dart down at the back. A minor deity, wearing a horned cap and a skirt with vertical pleats, stands with clasped hands before the seated god, and he is followed by a man in a feathered (?) headdress, clad in a fringed shawl that leaves the arms free; the right arm is raised in a gesture of reverence and the other holds up a kid. The last figure has a similar shawl, but the head is covered once more with the horned cap.⁹

58. Black diorite; concave. 26.5 by 14 mm. R. 649. 126. D.

Another presentation scene (wrongly centered in the reproduction), though of a different character. A god in horned cap and long skirt with vertical pleats is seated on a stool placed against a sacred tree; evidently corresponding to older versions which show Enlil on a wooded mountain. The seated deity is approached by the sun god with rays springing from his shoulders, who presents two other figures, all wearing similar skirts and caps.

59. Black diorite. 15 by 8 mm. Loose. 5649. B.

Deity seated before an offering table on which are placed what seem to be trays, or perhaps round flaps of bread. A ministering goddess, left arm raised in a gesture of reverence, introduces a female worshipper. Star and crescent mark the ministering goddess as Ishtar, the seated deity as Sin.

60. Grey marble. 28 by 14 mm. M 8. 1322. B.

Two seated deities, facing each other, clad in fringed shawls. Between them stands a worshipper, wearing a skirt with vertical pleats. A few bold rectilinear strokes mark the heads. The hair of the seated figure to right and of the worshipper sticks up at the back, that of the other deity (evidently female) hangs down in a stiff tail. The later figure holds a kid (?) in her lap while the god balances an unidentified object in his left hand.

61. Grey limestone. 33 by 20 mm. R. 676. 5228. B.

The goddess Bau, wearing the horned mitre and a long shawl, is seated on a curved throne behind which stands the sacred goose. Her minister, with horned mitre and bearded, introduces a bare-headed worshipper clad only in a wide girdle, who in turn leads a sheep. Over the throne is the eight-pointed star faced by a small figure of a nude goddess, while above the sheep is pictured a goat-bird.¹⁰

62. Serpentine; concave. 31 by 21 mm. K 7. 5434. P.

Ea, wearing a pointed cap and clad in a shawl that is draped under his left arm is seated on a cubic throne, facing to right. Two ministers clad in vertically pleated skirts lead between them the bird-man, with hands tied to mark him as prisoner. The captive has feathered wings and tail and long legs ending in claws. Ea raises his left hand to bid the group to advance. The god leading the procession holds in his right hand a small object, evidently something that the bird-man had stolen and for which offense he is brought to judgment. The culprit is apparently the storm-bird Zu, and one of his guards may be his conqueror Ninurta.¹¹

⁹ This seal has been described by Mrs. van Buren, *The Flowing Vase* 52-53.

¹⁰ Does this composite being belong ultimately to the same family as the lion-bird? For the latter cf. Mrs. van Buren's discussion in *Iraq* I. 72 ff., and *AfO*. X. 55.

¹¹ Cf. *Iraq* I. 25 ff.

63. Serpentine; concave. 29 by 18 mm. R. 657. 5153. B.

The sun god, his curved weapon in his right hand and rays radiating from his shoulders, rises over the mountains of the horizon. He wears only a pleated kilt and the horned mitre. A bearded minister in similar attire opens the gates of the solar shrine, a splendid palm tree coming thus into view.

64. Grey marble; slightly concave. 21.5 by 13.5 mm. M 8. 1447. P.

Seated deity, probably solar, clad in a pleated kilt; this and the attending figure appear bareheaded, but since the upper parts of their bodies are sketched only in rough outlines, a definite interpretation is not possible. The attendant enters from a pine-lined portico, bearing a pointed basket with indeterminable contents.

65. Black diorite; incomplete. 20 by 10 mm. R. 640. 1573. B.

The design presents several unusual features, the angular style of its human figures being particularly striking. The seat placed against the sacred tree is familiar (cf. Fig. 58). But the deity seated upon it is marked as foreign by its bird's head. From the left approaches another curious figure leading a bull (or lion) by its fore legs; the other hand holds a rhomb-shaped object, and between the human figures is a plant growing from a globular pot on the ground. We may have here an early version of the scene depicting the weather god (Teshup or Adad), with the bull and the thunderbolt, being received by a solar deity. Even the plant may have its parallel in the lotus, which is found on similar representations of later date.

66. Black limestone. 25 by 14 mm. R. 676. 5277. P.

Drinking scene. A female figure facing to right, seated on a stool placed against a tree, and a male figure, seated opposite, drink through tubes from a vessel placed between them. Between the tubes are two crescents. The couple appear bareheaded and they wear long flounced robes.

67. White marble. 35 by 24 mm. M 8. 1446. P.

The unusual design of this deep-cut seal is somewhat obscured through decomposition of its soft material.¹² The scene represents a procession led by a figure now indistinct, followed by a man who leads a goat holding it by its horns and tail. Next comes a smaller figure with a bird's head in Egyptian style (cf. Fig. 65); in his left hand he carries a vessel while his right balances trays, or flaps of bread such as are found in the Near East to this day, which he carries on his head. The fourth and last human figure is distinctly male, again with a bird's head; this man carries on his head a large vessel which he balances with both hands.

The scene is not a familiar one in this setting, nor can the individual human figures, all of them nude, be recognized as Mesopotamian types. They bear, however, an unmistakable resemblance to figures on certain Cappadocian and Cypriote seals.¹³ The necessary implication of relations with the West need not come as a surprise in view of the growing body of evidence concerning interrelations between Mesopotamia and the Levant. But in this particular instance we face a peculiar chronological difficulty. The Cypriote seals in question are ascribed generally, if somewhat vaguely, to the second millennium. On the other hand, the Gawra seal admits of no doubt as to its relative date, having been found at the floor level of Square M 8;

¹² For a photograph of the impression see *BASOR*. 55. 1.

¹³ *Ibid.* p. 2. Cf. also the rendering of human figures on the seal published in the *Swedish Cyprus Expedition* (1934) II. Pl. cl. 16. Prof. Battiscombe Gunn kindly reminds me of the general resemblance between the contents of this seal and certain mastabah offering scenes of the Old Kingdom.

its attribution to Str. *VI* is therefore definitely established. Now even the latest phase of this stratum cannot be placed after the middle of the third millennium, as will be demonstrated subsequently. It would follow that either (a) the date of the corresponding western seals has been set too late; (b) these seals had considerably earlier local prototypes; or (c) the Gawra specimen, being foreign to the district, was imported from a region that was to influence at a later period the glyptic art of the western centers.

To conclude our survey of the cylinders of Gawra *VI*, we need only add at this point that, according to Lower Mesopotamian standards, Figs. 43-53 would be termed Predynastic and Early Dynastic while the rest would be suspected of Sargonid influences, except for such marginal or unique pieces as Figs. 65 and 67. It will be granted, however, that southern standards do not have necessarily a uniform validity for the Gawra area. Furthermore, the view of a long-time student of the subject that "the art of Sargon may prove to be pre-Sargonid"¹⁴ cannot be overlooked at this time. But a connected discussion of Gawra chronology should not be attempted before all the stratigraphic facts have been duly presented. In the meantime we have other specimens to consider, beginning with two cylinders from

c. Stratum V

68. White marble. 31 by 16 mm. M 8. 1274. P.

Hunter, nude except for a sash and a horned cap, stands between two stumpy-tailed quadrupeds ('bulls ?); two lions (?) crossed and rampant, complete the design. Superficially, the seal seems archaic. But the schematized animals and the dispirited style of the whole composition mark it as an imitation of an earlier piece rather than a late survival.

69. Steatite. 40 by 12 mm. O 5. 1410. B.

Geometric pattern of cruciform design, the horizontal bar terminating on both ends in opposed volutes while the vertical one is enclosed in a figure-of-eight. Broad borders of bands connected by diagonal rungs.

d. Stratum III

70. Paste. 27 by 11.5 mm. O 7. 1161. P.

Three recumbent gazelles facing to right, alternating with fleeing gazelles, their heads turned back, disposed along the other axis, so that one row has to be viewed sidewise and the other lengthwise. The style is essentially abstract and the design, achieved with singular economy and delicacy of stroke, is novel and effective. Just as the spirals of Fig. 69 marked the introduction of a new motive, so do the arrangement and the execution of the present pattern reflect a difference in design and in spirit which indicate a wide cultural gap between Str. *VI* and the present level.

We may now classify briefly the material just reviewed. As regards shape, the Gawra cylinders are in the great majority of cases straight-

¹⁴ Legrain in *UC*. 326.

sided; there are only seven concave specimens (Figs. 44, 54, 57, 58, and 62-64).

The commonest material is marble, usually ivory-colored (Figs. 44, and 48-52), otherwise white (Figs. 67, 68) or grey (Figs. 60, 64). Limestone occurs in two varieties: grey (Figs. 43, 53, 61) and black (Figs. 54, 66). Black diorite is found in five instances (Figs. 46, 56, 58, 59, 65). serpentine in four (Figs. 55, 57, 62, 63), steatite in two (Figs. 47, 69) and alabaster (Fig. 45), bone (Fig. 42), and white paste (Fig. 70) occur once each.

The hunter-hero in several styles and traditions provides the commonest motive (Figs. 51-56, 68). Enthroned deities receiving offerings or seated in judgment are well represented (Figs. 57-62, 64, 65). Spread-eagle motives (Figs. 44, 49, 50) and geometric designs (Figs. 46, 48, 69) also appear to have been popular. Other themes are found only in isolated occurrences, which mark nevertheless some of the most interesting specimens of the entire group (cf. Figs. 43, 45, 47, 67, and note the details in Fig. 61).

e. Seal Impression (Stratum IV)

71. Impression of a cylinder seal upon clay. 82 by 21 mm. O 7. 5276. P.

This piece is unique in that it is the only impression of a cylinder from Gawra. It represents a single rolling and thus points to a squat original. The scene portrayed is a festive one. The center is occupied by two figures (the one to the left apparently horned) facing each other over a tall caliciform stand from which they have just filled their champagne glasses that are now raised in a toast. Behind each is a dancing girl in action. A similar celebrating pair (now separated on the impression) completed the design.¹⁵ All six figures wear long robes. There are various fill-ups in the field.

This impression closes the presentation of the glyptic material from Gawra, the conclusion being unexpectedly gay thanks to the pranks of stratigraphic sequence.

¹⁵ The occasion for the celebration is difficult to determine. The scene should not be confused with the elaborate symposia of Early Sumerian times (cf. *UC*, Pls. 193-95). One thinks of the joyful scenes attending the New Year's festival, but there is little profit in such idle speculations.

8. BEADS, AMULETS, AND MISCELLANEOUS ORNAMENTS

(Plates LIII-LIV; LXXXIII-LXXXV)

As is evident from the heading of this chapter, the objects discussed below present a problem in classification. The grouping is to a certain extent arbitrary. To continue the account of the finds according to their respective materials, as was done with the stone and copper work, pottery and terracottas, was manifestly impractical in the present instance. The alternative functional listing, which proved so convenient in the case of seals and seal impressions, has necessarily been adopted instead, with the important modification that the group under discussion is not uniform functionally at all times. For it features at least two distinct sets of objects, viz., personal ornaments, and objects with an underlying magical or ritual significance. That they have been grouped together is largely due to the fact that the distinction is not always self-evident; a delicately shaped animal head, e. g., may have been worn here and there for purely ornamental purposes, for all the schemes and designs associated originally with the type as a whole. Under these circumstances it seemed most practical to avoid setting up too many categories as long as absolute consistency in classification cannot be achieved without rendering the account unwieldy and confusing.

The present chapter, then, will concern itself with beads, pendants, amulets, and miscellaneous personal ornaments, all of which are available in a variety of materials. The few gold ornaments from Gawra *VIII* and up have naturally been included in this presentation. On the other hand, ornaments of copper or bronze have been described in the chapter dealing with copper work; for other isolated pieces of possible interest in this connection cf. the chapters on stone work, terracottas, and bone objects.

*Beads*¹

In so far as the number of items discovered is concerned, beads form an overwhelming majority of the objects included in the present account. To each pendant or amulet there are thousands of beads proper. There is considerable diversity as to shape, size, and material,

¹ The terminology used here follows the suggestions adopted by the Third Conference of the Field Directors of archaeological expeditions to Iraq.

and the distribution over the several levels is strikingly uneven. To begin with the last-named feature, most of our specimens come from Str. *VIII* (cf. Pl. LIII. *a*).² This is due mainly to the circumstance that at the period in question the southern portion of the site acquired a series of infant burials richly furnished with beads. Since the levels above did not contain any regular burials, the comparative wealth of Gawra *VIII* in this particular respect is not surprising. Large quantities of beads were found also, however, in the occupational debris of the stratum; R. 812 alone furnished more specimens than all the upper levels combined. It would appear that such extravagance was peculiar to prehistoric settlements. At any rate, the supply diminishes perceptibly in Str. *VII*, and from the extraordinarily prosperous Str. *VI* we have only the one string that had been thrown in with the collection of copper objects found in the "treasure pot" of R. 649.³ The later deposits yielded only isolated specimens, among them the beautiful segmented gold bead (Pl. LIV. *b*. 2; cf. Pl. LXXXIV. 25) of Str. *IV*. It should be added that, to judge from the evidence of the trial trenches, the industry prospered in the occupations preceding Gawra *VIII*.⁴

The most popular materials were shell (cf. Pl. LIII. 2-6), white, grey, and black limestone. Especially worthy of notice are beads of obsidian, green, smoky, or dark blue, common in Str. *VIII* and apparently confined to it. Among the rarer occurrences in this level may be noted carnelian, rock crystal, agate, amethyst, blue and white faience, clay, bone, gold, and turquoise. The later strata add lapis and chalcedony. The string from R. 649 consisted of carnelian, lapis, and rock crystal.

With regard to size there are marked fluctuations. Characteristic of the infant burials of Str. *VIII* are remarkably tiny beads, usually of shell, which are frequently less than 1 mm. in thickness (cf. Pl. LIII. *a*. 4, 9). The common ring-shaped beads average 2 mm., and the tubular ones are from 5 to 12 mm. long. The gold beads of Str. *VIII* are 2 mm. in width, while the segmented specimen from Str. *IV* (cf. above) is 72 mm. long.

Passing finally to a description of the shapes, rings are by far the commonest type, followed by balls, and tubular examples. Rare and

² Unless otherwise stated, the beads described below will be understood as coming from Str. *VIII*.

³ Cf. ASOR. IX. Fig. 79, last row.

⁴ Very large quantities of beads have been found by Mr. Bache in the tombs associated with Str. *IX*.

unusual varieties are illustrated on Pl. LXXXIII. Fig. 1 (grey limestone; below Str. *VIII*) is elliptical, Figs. 11 (carnelian) and 16 (lapis; Str. *VII*) are bicones, and Fig. 5 (grey limestone) is of the long double-conoid type. Fig. 13 (agate; Str. *VII*) is a faceted conoid. Fig. 2 (black limestone) is date-shaped, and Fig. 31 (agate; Str. *I*) shows a flattened variant of this type, Fig. 3 (bone) is cylindrical, and Fig. 18 (pale blue faience; Str. *VI*) tubular. Figs. 8 and 9 (carnelian) are rectangular, and so is Fig. 19 (steatite, with white glaze; Str. *VI*), while Fig. 6 (shell) is square; the latter two specimens are decorated on both sides with circular incisions, which are noticeably regular in the case of Fig. 19, suggesting its possible use as a gaming piece. Fig. 14 (grey limestone; Str. *VII*) is discoid, and Fig. 22 (agate; Str. *VI*) of the lentoid type. Fig. 7 (steatite) is a segmented barrel, and Fig. 29 (grey limestone; Str. *V*) shows spirals diagonally applied. Fig. 4 is a concave specimen made of turquoise. Of the decorated examples Figs. 12 (Str. *VII*), 21, and 28 are all made of the same material, a bluish limestone; they are irregularly notched pieces ornamented with simple rectilinear incisions. Fig. 17 is a carefully notched specimen of grey limestone, from Str. *VI*. Fig. 30 represents a gadrooned lentoid of blue faience; it was found in Str. *I*. The decoration on Figs. 6 and 19 has been mentioned above. Attention should be called to the irregular incisions found on Fig. 1. Lastly, Fig. 25 (carnelian; Str. *VI*) seems to be a borderline specimen and may have been used as a pendant.

Pendants and Amulets

In this section will be found such diversified types as simple drop pendants and figurines of the mother goddess. Between these extremes is a group of small representations of animals doubtless employed as amulets. It is altogether likely, however, that at least some of the decorated pendants were used as amulets, while the conventionalized goddess figurines bear a sufficiently close resemblance, in size and material, to a number of our animal amulets to suggest an underlying functional relationship. The problem would be, then, to separate the purely decorative pendants from the real amulets. Since such a division could not be carried out with any degree of assurance, the material has been grouped, on strictly external grounds, under the following subheadings: a. Pendants; b. Animal amulets; c. Figurines of the mother goddess.

a. *Pendants* (Plates LIII. b. 5; LXXXIV. 1-16, 21-24). The illustrated specimens represent the following levels: Pl. LIII. b. 5, Str. VII; Pl. LXXXIV. 1, 3-6, 16, and 22-24, Str. VIII; 7-12, Str. VI; 13-14, Str. III; 15 and 21, Str. IV. No. 2 is from a deposit below Str. VIII. Most of them are of the typical drop form. The shapes are normally simple, elaborate examples like Fig. 15 being exceptional. In addition we have a vase amulet equipped for suspension (Fig. 3), a spool-shaped pendant (Fig. 16), and a foot amulet (Fig. 21). The materials range from pottery (Pl. LIII. b. 5), and limestone in various shades (Pl. LXXXIV. 2-6, 8-9, 12) to sandstone (16), serpentine (10, 15), white marble (21), rose quartz (1, 11), shell (13, 14) and obsidian (not illustrated). Lastly, several gold pendants, or ornaments resembling pendants, came up in the infant burials of Str. VIII. Fig. 22 is made of a very thin sheet of gold and is 29 mm. long with a diameter of 19 mm. Figs. 23 and 24 represent two similar types of ornaments, and we have three specimens of either type; those with central perforation (cf. Fig. 24) were found in one burial, while the other three were discovered in another near-by grave. Each cap was built over a bitumen base or core. Fig. 23 is 16 mm. long and 9 mm. wide, and the companion pieces measure 15 by 8 mm. and 15 by 10 mm. respectively. The length of Fig. 24 is 18 mm. and its width is 13 mm., the dimensions of the other two pieces being 17 by 12 mm. and 17 by 13 mm. The exact use of these objects is not entirely clear.

The markings consist usually of simple incisions. A graceful pattern is achieved in the case of Fig. 16, while Fig. 15 presents the most elaborate design. Fig. 10 reverts to simple scratches which seem, however, to yield the outlines of a human figure, an artful enough device if the purpose of the object was connected with magic. With this cautious hint at identification we may take up the subject of amulets proper.

b. *Animal Amulets*. The most important example of this group is the double-ram (or bull?) amulet shown on Pl. LIII. b. 1. Of excellent workmanship, it is made of marble and is 40.5 mm. long. Like the other examples of this general type, the present specimen is of the flat variety.⁵ It has a central crosswise perforation and a well-cut encircling groove divides the piece into symmetrical halves. Another groove

⁵ For similar material from Nineveh cf. the article by H. C. Beck in *Antiquity* V. 427 ff., and the illustrations on p. 433.

placed near the base and running at right angles with the first adds to the decorative effect. The perfect balance is happily emphasized by duplicating the drilled eye-holes half-way between the heads and the central groove.

What is particularly gratifying, however, about this object is its clear stratigraphic connection. Discovered on the floor of a room in Str. VI, this specimen corresponds exactly in appearance as well as in date with one from Billa V. Since related objects have been found recently on several sites, in and outside Mesopotamia, and not always in datable layers, the present piece furnishes invaluable chronological evidence. It should be added that the type as such is not represented in any other stratum of either Gawra or Billa.

Three other illustrated examples of animal amulets belong to Str. VI. Pl. LIII. b. 2 displays what is indisputably the masterpiece of the group. It is made of buff marble and measures 38 by 31 mm. A recumbent dog seems to have served as the model, but the artist was apparently too enthusiastic a follower of the stylizing school to be concerned with an exact representation. The head is shown in full view, dominated by deep round eyes set off skillfully with the aid of encircling rings. Two identical figures are cut below with a keen appreciation of the decorative value of proper spacing. The narrow grooves round the neck may have been intended as a collar, or else as indication of the folds resulting from the turning of the head. Taken as a whole, this amulet is one of the most appealing specimens of its kind.

From the same level come the amulets shown on Pl. LXXXIV. 19 and 20. The latter is made of steatite and its dimensions are now 25 by 14 mm. It is likely, however, that the back, which is now blunt and polished, had been broken and subsequently ground down to its present shape. The tubular perforation is vertical and not crosswise as in the first specimen of this class. As to the type of quadruped intended, no identification can be advanced with any degree of confidence.

Before leaving this stratum, reference should be made to the two fragments of contemporary animals and the numerous copper serpents, which were described in an earlier chapter (cf. pp. 110 f.).

Lastly, there are two fine examples of this class from Str. VIII. Pl. LXXXIV. 17 shows a beautifully carved head made of shiny black limestone. No. 18 is an acceptable reproduction of a dolphin, the material being rose quartz. The base is incised with a cross-hatched pattern. The piece is 30 mm. long.

c. Figurines of the Mother Goddess. In addition to the few human representations listed with the terracottas, Gawra produced three almost identically shaped figurines of white marble. Two of these have been reproduced (Plates LIII. b. 3 and LIV. a). All bear a close resemblance to three other specimens from Billa *V*, which are made of the same kind of marble. As might have been predicted on the basis of the Billa parallels, two of the Gawra examples come from Str. *VI*: the larger one of our illustrated specimens (85 mm. high) and the one not illustrated. But the smaller piece (26 mm. long) was found in Str. *V*. The last-named object is perhaps to be credited, nevertheless, to Str. *VI*, continued use offering a possible explanation for the later stratigraphic connection.

Little need be said about the type as a whole. We have here the mother goddess represented conventionally in figurines of violin-shaped form, a style attested amply in the Cyclades, Crete, and other centers scattered from the Aegean to Transcaspia. The six new examples from Billa and Gawra, to which should now be added one from Khafaje,⁶ present a specialized variant of the general type. In all the Mesopotamian specimens the identity of material is particularly notable. Worthy of notice is also the approximate correspondence as to date; all these figurines go back to the first half of the third millennium B. C. These facts point rather plainly to a common source. More to the point for the present is the evident unity of purpose, for it is the function of these objects that determines their classification. Indirectly we have accepted the figurines as amulets, citing partial correspondence with the animal amulets as supporting evidence. They are generally small and their use appears to have been restricted. As isolated charm idols they seem more in place than they would as objects of a dominant religious cult.

Miscellaneous Ornaments

A selection of ornaments of varying kinds, some of them of uncertain use, is presented Pl. LXXXV. Fig. 1 is one of a large group of shell rings common in the middle occupations of Gawra. The present specimen comes from Str. *VII* and measures 22 mm. in diameter. Fig. 2 is a disc of blue faience from Str. *VI*. The material of the object shown as Fig. 3 (Str. *VII*) is serpentine, but its use is subject to speculation. In Fig. 4 (Str. *VI*) we have a fine pin-head of red marble,

⁶ See below, p. 173.

23 mm. in diameter. Fragments of copper were found adhering to the sides of the hole. Figs. 5 (Str. *VI*) and 7 (Str. *V*) are stone buttons of types common to these levels. Fig. 8 is made of basalt and comes from Str. *I*. The object resembles a weight, but fits into no known system. Fig. 9 is a piece of perforated shell found in Str. *VIII*; its use is uncertain. The discoid specimen illustrated as Fig. 10 seems to have been a gaming piece; it is made of variegated grey and white marble and comes from Str. *VI*. Figs. 11 and 13 are studs, the former (Str. *VII*) of buff ware with a black surface, and the latter (Str. *V*) of black limestone. Fig. 12 is of light blue faience, of doubtful use; it came up in Str. *VI*. No. 4 on Pl. LIII. *b* (surface) represents an interesting piece of shell inlay; it is paralleled, as we shall see, as far east as Mohenjo-daro.

Finally, attention should be called to the unfinished piece illustrated on Pl. LXXXV. 6. The material is marble and the perforation vertical, as was the case with some of the animal amulets discussed above. The object had broken in the course of drilling and the ultimate purpose is thus open to speculation. It is likely, however, that an amulet of the double-axe type was originally intended, with two roughly triangular blades. Found in our second trial trench, this object may be assigned to Str. *XI*.

9. BURIALS

There was no room for cemeteries in the five uppermost levels of Gawra; it could not be spared. Nor did these strata contain any isolated burials, apart from two intrusive interments made long after the mound had ceased to be inhabited. Gawra *VI* commanded a more extensive area, to be sure, but the settlement proved crowded as it was. The occupants of Str. *VII* were not pressed for space, and yet they chose to dispose of their dead somewhere on the plain below. Thus no contemporary graves in the proper sense of the term are found before we come down to Str. *VIII*. Even in this case we can hardly speak of a complete cemetery since graves of children alone are here represented. The same may be said of a group of burials from an earlier stratum, which were discovered in a trial trench. It is thus clear that none of the levels under discussion was represented by a real necropolis. According to recent reports from the field a number of unrifled tombs, probably associated with Str. *IX*, came up in the course of the fifth campaign.¹ But the cemetery area of Gawra, with the graves of such important periods as Gawra *VI* or *VIII*, still awaits discovery. Till such time we shall be without the choicest examples of their material culture and, what is more regrettable, without knowledge of their burial customs and evidence of anthropometric nature.

What we have from the first three campaigns may be summed up as follows: One group of children's graves from Square M 12, probably Str. *XIII*; a number of infant burials from K-M: 11-12 and O 11, Str. *VIII*; several similar burials found under the Eastern Temple, and one in a wall of the Western Temple; two burials intrusive in Str. *I*; and lastly, three loose skeletons.

Square M 12. In this area, at a level assigned tentatively to Str. *XIII*, were found eight urn burials of children. This section doubtless formed a part of a larger burial area. The skeletal material recovered was very poorly preserved and did not lend itself to measurements.

1. Found in the jar reproduced on Pl. LXII. 17; the bowl shown *ibid.* Fig. 9 served as lid.
2. The crushed skeleton lay at the bottom of the painted jar reproduced *ibid.* Fig. 18.

¹ For the lower burials cf. *BASOR*. 57. 15.

3. The urn was undecorated. The skull which lay against the side of the jar was the only one of this entire group that had been tolerably well preserved. The age may be estimated at about three years.

4. In this case much of the skeleton had turned to powder. The jar used is the fine painted specimen illustrated *ibid.* Fig. 19. A pendant of transparent obsidian is unique in that it furnishes the only piece of funerary furniture discovered with these burials.

5-8. About these burials there is little of interest to report. From the jar used in No. 6 the rim had been removed, while in the case of No. 8 the mouth of the jar was covered with a layer of sherds.

Str. VIII. The child burials of this stratum fall into two groups. The first comprises the graves found to the east and south of the Western Temple, in K-M: 10 and O 11, while the other includes the burials that were definitely associated with two religious edifices of this period. To begin with the former group, the skeletal material is in even worse condition than was the case with the urn burials, most of the bones having turned to powder. The reason is not far to seek. The present burials are loose, lacking thus such protection as was afforded by a pottery vessel. Only in one instance could traces of an underlying reed mat be discovered, while another burial had a few sherds placed near the head. It is of course possible that some sort of textile was employed to wrap the body, in which case the material had completely disintegrated in course of time. To judge from three reasonably clear instances the bodies were placed in a slightly contracted position.

Unlike the urn burials discussed above, these graves contained frequently some kind of funerary furnishings, particularly beads which were found in large quantities. That these beads may have been joined so as to form covers seems to be a reasonable assumption. No pottery was found.

9. Square K 10. Body slightly contracted, head at southwest. Below the neck were numerous beads, including 18 shell barrels, 2 ring-shaped beads of pink stone, and many minute ring-shaped beads of white shell and transparent obsidian.

10. Square M 10. Position of the body uncertain owing to the powdery condition of the bones. The grave furnishings included many beads of black limestone and shell, a few of carnelian and turquoise (Pl. LIII. a. 4), and the gold pendant shown on Pl. LXXXIV. 22.

11. Square M 10. Body slightly contracted, head at southeast facing north. Traces of reed matting were found under the skeleton.

In addition to beads of the types described above there were several of turquoise and a number of limestone balls; cf. Pl. LIII. *a.* 1.

12. Square M 10. Bones decomposed. The burial contained the usual beads of turquoise and shell, a turquoise pendant (Pl. LIV. *c.* 3) and three gold ornaments with traces of bitumen cores (cf. Pl. LXXXIV. 24).

13. Square O 11. Body contracted, head at southwest facing northwest. Near the head were a few large fragments of pottery, apparently used as a cover and not as part of the furnishings. A large quantity of beads was found near the chest, including many minute ones of shell, limestone, and obsidian, one irregularly shaped amethyst piece, and a few ring-shaped beads of carnelian and turquoise. In addition three gold pendants were found, of the type illustrated on Pl. LXXXIV. 23.

14-15. Square O 11. In both cases the bones were decomposed and the burials lacked the usual assortment of beads.

The question might be raised as to the reason for the concentration of these burials near the Western Temple. This location and the fact that the age of the buried probably averaged no more than twelve to eighteen months appear to be of some significance. It is evident, at any rate, that this area was devoted only to certain children's graves. But what principle guided the selection? Does the immediate vicinity of a temple point to some sacrificial practices? The problem is complicated by the presence of other child burials which are more closely associated with two of the religious centers of Gawra *VIII*.

One of these (now to be listed as No. 16) was mentioned in connection with the architectural remains of Str. *VIII-C*. The remains of the infant were found in the southwest wall of the Western Temple, near the western corner, enclosed between two flat pottery plates. They had been deposited in that place while the building was under construction. This burial was therefore plainly of sacrificial origin (cf. p. 25).

Six other temple burials were found by Mr. Bache under the floors of the Eastern Temple while he was laying bare the remains of Str. *IX*. It goes without saying, however, that these graves have a definite relation to the superimposed structure and thus to Str. *VIII-C*. I am indebted to Mr. Bache for the following notes (cf. Pl. XII, inset):

"1. Elevation 12.39 m. Loose burial, skeleton contracted, head at southwest facing northwest. Near the chest was a number of minute cylindrical beads of shell and black stone.

" 2. Elevation 11.75 m. Cist burial, with three covering stones and three stones for walls, one end being open. Bones so decomposed that the exact position of the body could not be determined, except that the head was at southeast. There were traces of a covering reed mat, and some of the bones bore evidence of copper oxidation. Near the chest were small black and white cylindrical beads, a few of carnelian, and one of lapis.

" 3. Elevation 11.90 m. Loose burial, body slightly contracted, head at northeast facing south. Remains of reed matting were found under the skeleton.

" 4. Elevation 12.03 m. Loose burial, contracted, head at southeast facing north. Near the chest lay a few discoid beads of mother-of-pearl, and a number of minute beads of limestone and quartz.

" 5. Elevation 11.67 m. Rectangle of mud brick, 37 by 72 cm. Contained burnt scattered bones placed on a reed mat.

" 6. Elevation 11.90 m. Jar burial of infant. The vessel was surrounded with mud bricks and covered with similar bricks laid horizontally. [C. B.] "

For the present this is all the information that we have on the subject of the disposal of the dead.

In Square M 8, at a depth of only 0.45 m., were found two loose burials that have obviously nothing to do with Gawra proper. The heads were at northwest facing south.

Loose Skeletons. One skeleton was discovered near the east corner of R. 830, obviously out of position, but clearly from Str. *VIII-A*. From the well in Square J 7 came two skulls together with sherds of Str. *VI*. The following notes have been submitted by Miss Cross:

" Skeleton in R. 830 (Pl. XXI. *a*). Adult, male, of about nineteen or twenty years of age. Epiphysis on end of clavicle not united, all others united. Superorbital ridges fairly prominent. Maxilla slightly protruding. The skull was broken making exact measurements impossible; but the type may be regarded as dolichocephalic.

" As regards position, the head was to east, feet to west. They were crossed, right foot upon left. Left hand touched the pelvis, the right arm being flexed. Femurs were straight, as in extended burials, but the torso was slightly bent to left. To judge from the position of the skeleton, the man had met with violent death and the body was left on the spot.

" The cephalic indices of the two skulls from the well are 75.7 and 76.7 respectively."

III. COMPARISONS AND RESULTS

1. INTRODUCTION

THE FACTS of discovery have now been presented. Our account of the finds has been representative rather than complete, in that many duplicates and not a few variants of the objects discussed have been omitted from the illustrations and ignored, though to a lesser degree, in the text. But an effort was made to include in the presentation all the facts and details that are likely to prove significant, no matter how puzzling some of them may appear at present. I have striven also to point out, wherever the material permitted, the relative frequency of the various types of finds, and the changes and innovations observable from stratum to stratum. Lastly, by disregarding for the time being all parallels and analogues from related sites, save for a few special instances, attention was focused on the independent evidence of Gawra.

Now that the purely descriptive task is over, however, it becomes necessary to abandon this policy of isolation and to enlist the aid of other ancient centers in evaluating the cultural and historical position of our site. The principal problems that confront us at present are (a) the dating of the levels under discussion, and (b) their cultural connections with the outside world. In seeking answers to these questions we must ascertain first the foreign relations of our finds in order to obtain the necessary synchronisms. Upon this basis the dating of our levels may be attempted, guided and checked by the clear stratigraphic sequences established in the course of the excavations. A general summary of the results obtained will conclude our inquiry. The sections that follow are thus: 2. Foreign Relations. 3. The Dating of the Strata. 4. General Results.

2. FOREIGN RELATIONS

It goes without saying that in looking for parallels to the finds from Tepe Gawra account should be taken only of correspondences possessing real cultural significance, disregarding accidental similarities and such analogous developments as may be expected in independent, even though contemporary civilizations. A further limitation to the scope of our inquiry is imposed by geographical considerations. It is becoming increasingly apparent that in the case of ancient civilizations cultural correspondences are most likely to denote contemporaneity within comparatively limited areas. Conversely, the same period may witness different or uneven cultural strides in centers not more than a few hundred miles apart. Such otherwise interdependent regions as Upper and Lower Mesopotamia were often out of step with each other as regards civilization. Even Ur and Uruk, or Gawra and Nineveh,¹ may reflect at identical periods varying degrees of emphasis in material, and no doubt also in spiritual matters. It is therefore the cumulative evidence of cultural contacts and relations, based primarily on the testimony of neighboring sites, that will be the objective of this survey. I have excluded from it much comparative material that seemed to me of little first-hand value, or that merely duplicated the evidence obtained from more significant sources. Considerations of space had much to do with limiting further still the presentation of available data. That some material of importance is bound to be overlooked in cases such as this is perhaps the one regrettable aspect of the extraordinarily rapid progress recorded currently in Near Eastern archaeology.

The present arrangement follows the order of the descriptive portion of this book. We shall begin with the architectural remains and continue with the pottery, terracottas, and the remaining groups of

¹ Cf. e. g., the splendid temples of Uruk *VI-IV* as against the insignificant architectural remains of contemporary Ur. At Nineveh the reserved slip ware occurs in stage *IV*, during the Jemdet Nasr period, while at Gawra it is one of the characteristics of a later occupation, that of Str. *VI*, which falls within the Early Dynastic age. Even such intimately related settlements as Gawra *VI* and Billa *V* differ in their preferences for certain types of copper objects. The latter township contained a proportionately greater variety of weapons, especially as regards spears, owing of course to the more pronouncedly military character of the site.

finds. As regards chronological sequence, we shall commence with the lowest levels and proceed systematically to the topmost strata that offer any basis for comparisons with other sites.

a. Architectural Remains

(cf. pp. 11 ff.)

Where geographical and chronological considerations present no serious difficulties, building methods and plans may be regarded as the principal criteria of architectural interrelations. Such details as all-stone or all-brick construction, the use of stone foundations for walls of burnt or mud brick, the broad-room or long-room design, and the orientation of the corners² are generally looked upon as significant for comparative purposes. Thus the long-room and brick construction upon foundations of stone have long been viewed as characteristic of Assyria, while the broad-room and all-brick construction (the so-called alluvial method) have been assigned to Babylonia.³ If we substitute North and South for the unduly restrictive terms Assyria and Babylonia respectively, these ascriptions are indeed borne out in historical times. To adduce a recent instance, at Tell Billa the Hurrian levels invariably use stone foundations, while the Assyrian settlements have all-brick buildings. Here the Hurrians represent, of course, the northern element while the Assyrians reflect southern influences. But in prehistoric times the evidence is not nearly so unambiguous. Archaic levels *V* and *IV* at Uruk (Warka) seem to disclose certain cultural connections, especially with regard to pottery; and yet the temple of Uruk *V* reposed on limestone foundations, while the Red Temple of Uruk *IV* had no such support. These discrepancies may be explained by the presence of different ethnic elements. In Gawra, however, we have noticed the occurrence side by side of both long-rooms and broad-rooms, in what was clearly a homogeneous and carefully planned acropolis (Str. *VIII-C*). It will be well, therefore, to guard against adhering too closely to commonly accepted norms.

Close parallels to the architecture of Gawra *VIII* are found only on the mound itself. Recent campaigns directed by Mr. Bache have proved

² On this question see the monograph of G. Martiny, *Die Kultrichtung in Mesopotamien*, Studien zur Bauforschung herausgegeben von der Koldewey-Gesellschaft, Heft 3, Berlin, 1932.

³ Cf. Andrae, *As. 28.*

that the temple plan as featured by the Western and Eastern Temples of Stratum *VIII-C* was known already to Gawra *IX* and *X*.⁴ Lack of clear-cut connections with the outside is due, no doubt, largely to the antiquity of the settlement under discussion. For Gawra

VIII was a Chalcolithic occupation, as we have seen, and sites of comparable antiquity are as yet rare. In certain respects, however, our level may be brought into comparison with Ashur and Uruk.

The Ishtar Temple of Ashur *G* (with which may be compared the remains of the underlying structure in Str. *H*) was built of bricks without interposed foundations of stone; it contained a podium near the center of the cult chamber, and it made use of set ablution bowls (cf. *As.* Pl. 6). All these elements are paralleled, without being identical in all details, in the temples of Gawra *VIII*. Against these superficial similarities, however, there is this important difference: the entrance at Ashur is from the northwest, on the long side, and not on the short side as in the two main temples of our site,⁵ even though the Ashur sanctum appears to have been against the short side in a Langraum arrangement. In other words, the relations of the Ashur temple in question seem to be with Gawra *V* and *IV* rather than with *VIII*. Added to this is the discrepancy in dates. The Ashur fragments of painted pottery that antedate levels *G* and *H* correspond most likely with the painted ware that appears in Gawra *VII*,⁶ i. e., after the period with which we are concerned at present.

Less troublesome on chronological grounds is the partial correspondence of our settlement with the fine temple of Uruk *V* (*UVB.* III. p. 16). Here the orientation is identical with that of the Western Temple (Pl. XI); in both structures the entrances are from the northeast; the long narrow rooms flanking a central space are similarly disposed; and lastly, in both instances we find frequent niches. To be sure, the Uruk temple is built upon limestone foundations, which are not known to Gawra *VIII*. But the correspondence in date is significant. The southern sanctuary belong to the so-called Uruk period, which precedes in the south the Jemdet Nasr phase of predynastic cultures. We shall see that Gawra *VIII* is in a similar sequence. Asso-

⁴ Cf. *BASOR.* 54. 13. Even Str. *XI* shows closely related temple architecture; cf. *ibid.* 57. 13.

⁵ I. e., the Western and Eastern Temples. But both the Central and Northern Shrines had differently placed entrances, as described above, pp. 27 f.

⁶ See below under Pottery, pp. 150 ff.

ciated with a lower stratum at Uruk were obsidian vessels; corresponding objects occur also in an earlier level of Gawra, according to recent reports from the field. More to the point is the fact that the immediately following Uruk level (*IV*) has produced building remains with niches far more elaborate than in the White Temple; they are triple-recessed as against the double niches of Gawra *VIII* and the single ones of Uruk *V* (cf. *UVB.* V. Pl. 6). In other words, Gawra *VIII* and Uruk *V-IV* reflect a cultural relationship that can hardly be fortuitous. The differences between these occupations may be due to the considerable distance between the two sites and to the effects of respective local influences and traditions. The civilizations are by no means identical; but there is a strong suspicion of a common original background.

While we are discussing Uruk, attention should be drawn to the curious resemblance in design between the Innin Temple of Karaindash, which graced the southern site, and our Western Temple; curious, because the former dates from the 15th century, or a time nearly two thousand years later than that of the Gawra sanctuary. In addition to the niche decoration the Karaindash structure shows also a prominent entrance niche, shallower than the Gawra liwān, but nevertheless strongly reminiscent of it (*UVB.* I. Pl. 10). That the Kassite temple in question is un-Babylonian in spirit has been pointed out by Dr. Jordan. That its correspondence with the Gawra temple is far from complete is equally obvious, though not remarkable if the difference in time is taken into account. Are we to note here again echoes of a common ancestry?

In passing, we should not lose sight of the unique architectural features of Gawra *VIII*. The windows in the Western Temple and the Central Shrine, and the vault in Str. *VIII-A* are new at the time. The former feature is not met with again before the middle of the third millennium, at Tell Asmar.⁷ The vault may be presupposed at a much earlier date at Arpachiya, to judge from certain circular foundations found on that prehistoric site;⁸ but its actual remains, with true arch construction, are first encountered at Gawra (cf. Pl. XIII).

The building remains of Str. *VII* are too scanty for profitable comparisons. With Str. *VI* begins a series of occupations characterized

⁷ Cf. *ILN.* 4917, 100. In the same Akkadian occupation Frankfort discovered also arched doorways. But the Tell Asmar level in question is well over half a millennium later than Gawra *VIII*.

⁸ See the interesting discussion of the Arpachiya tholoi, *Ar.* 25 ff.

(like Billā *V-III*) by foundations of rubble, a procedure that is interrupted only in Str. *IV*, where all-stone construction seems to have been the rule. It is perhaps significant that this method

Stratum VI. appears in Anatolia with Alishar Ia (first half of the third millennium B. C., thus synchronizing with Gawra *VI*).⁹ To return to Gawra *VI*, we have seen that the level is extensive, but far from impressive in an architectural sense. What is noteworthy about it is the plan of the site as a whole rather than the appeal of the individual buildings. The township was well sheltered on three sides by rows of structures built hard by one another, with their main entrances facing the large "square" in the center of the mound; the one side that was partly open enjoyed the protection of a steep slope. On Asiatic soil, the nearest parallel to this plan appears to be found near the Dead Sea, in the topmost level of Ghassul (*IV*).¹⁰ The date of the latter occupation is disputed, but hardly earlier than c. 3000 B. C., which would correspond with the beginning of the Copper age in Mesopotamia, and thus also with Gawra *VI*.¹¹ We shall have occasion to note some other correspondences between Ghassul *IV* and our Str. *VI*.

Both Gawra *V* and *IV* produced massive constructions of stone, the former as foundations for walls of mud brick, while the latter seems to have used stone throughout. Otherwise the two occupations are closely related, as may be gathered from the surviving traditions of the Strata V-IV. shrine of Gawra *V* in the stratum above it (cf. Pls. V-VI, and pp. 14 ff.). The foreign relations of these levels point rather clearly to Ashur. Here we find in Str. *E* (cf. *As.* Pl. 7) a temple that

⁹ Cf. Alishar IV. 26, Alishar VI. 3, and the table in Bittel's *Kleinasien* 23. Though *kerpich* (mud brick) construction upon foundations of rubble is characteristic of Anatolia from the time of Alishar Ib on (Bittel, *ibid.* 62, it is interesting that *kerpich* alone occurs before this period, creating thus a brand new problem as regards the ultimate origin of the brick-on-stone construction.

¹⁰ Cf. the plan of the level, *Ghassul* 33. I am indebted to Prof. Valentin Müller for calling my attention to this correspondence.

¹¹ There is as yet no general agreement as to the date of the Ghassulian culture. The late Père Mallon placed the latest (fourth) level about 2000 B. C. (*Biblica*, 1931, p. 261). Disregarding this extreme position, we find that Albright would date Ghassul entirely to the fourth millennium (*BASOR*. 48. 10-13; 54. 29), while Engberg and Shipton (*Notes on the Early Pottery of Megiddo* 47 ff.) are inclined to extend Ghassul *IV* to the beginning of the Middle Bronze period. It would be foolhardy for an outsider to take part in this lively controversy on the sole evidence of partial architectural parallels. We shall see, however, that Gawra *VI* and Ghassul *IV* disclose also certain interesting affinities with regard to pottery, which tend to add weight to the arguments of Albright; cf. p. 159.

invites comparison with the Gawra *V* shrine. Orientation is the same in both instances; the entrances are from the northwest, near the west corners; in each case the sanctum is against the short northeast wall, with a special cella in Ashur and in the related shrine of Gawra *IV*; notable also are the wide and regular walls of the cult chambers in Gawra *IV* and Ashur *E*. Now the last-named building is dated to the time of Amar-Sin, of the Third Dynasty of Ur (c. 2230 B. C.), a period that suits Gawra *IV* admirably. The one important difference is provided by the building material of the Ashur temple: unlike Gawra *V*, and particularly Gawra *IV*, it is all of mud brick, just as were its predecessors in levels *H* and *G*. Here we seem to have an example of architectural syncretism that should command more attention in future accounts of Mesopotamian building habits. The Ashur occupations under discussion express northern designs in a material that is at home in the south; but the northern technique appears to assert itself in Ashur *E*, and does so definitely in *D*.

It has been indicated that certain features of the *G* temple are not without analogy in Gawra *V-IV*. The position of the main entrance is one of them. We may add now the extensive use of wall-benches in the Ashur sanctuary and compare with it a similar provision in R. 407. Other resemblances will be mentioned in connection with pottery. The net result of all these comparisons may be summarized as follows: Ashur *E* seems to coincide in date with the end of Gawra *V* and the beginning of *IV*; all three hark back to earlier local occupations, *H* and *G* in the former instance, and Str. *VI* in the case of the Gawra shrines. The lowest levels at Ashur correspond with the beginning of Gawra *VI*. Their founders may have inherited certain cultural elements from the stocks that furnished the population of Gawra *VIII-A* and *VII*. But the main cultural impetus came from the south, and at a later time than can be assigned to these last Chalcolithic settlements at Gawra.

b. Pottery

(cf. pp. 38 ff.)

Among the various finds from Tepe Gawra pottery occupies a singularly favored position. We have seen that the surface sherds examined on our original visit to the site were chiefly responsible for the subsequent excavations. For they conveyed a promise of worth-while results concerning sequences and interrelations during the remote, evidently lengthy, and at the time little known period of Painted Pottery. It has also been shown that the first trial trench bore out fully the preliminary

analysis. Later expeditions furnished a wealth of ceramic types, clearly stratified and represented for the most part by complete vessels, which have been discussed in the descriptive portion of this work. Little was said there, however, about the pottery of the levels preceding Gawra *VIII*, even though our two trial trenches had given us rich collections of sherds and some whole specimens belonging to those early deposits. The reason for this omission is not far to seek: there is not much to be gained from an exhaustive presentation of trench material when the levels in question are soon to be reached in the course of regular excavation. It is precisely because pottery is our most reliable guide through prehistoric occupations, illuminating as it does internal progress and external relations, and rendering articulate eras as yet untroubled by inscriptions, that premature judgment must be avoided. A systematic account of Early Gawra may be expected in the near future. For the present the pre-stratified pottery may, therefore, be dismissed with a few remarks.

The preliminary dig of 1927 revealed that the early painted wares of Gawra were spread over a number of occupations and represented several distinct styles. By the side of el-Obeid specimens there were also

Prior to Stratum VIII. examples of North Syrian wares, as known from Carchemish and Sakje Gözü, while relations with Tell Halaf and Samarra were also indicated.¹² Since then our knowledge of the period as a whole has been enriched by discoveries at Nineveh and Arpachiya, in the immediate vicinity of Gawra, and at Ur, Uruk, and Telloh, in Lower Mesopotamia. With each of these centers Early Gawra had either direct or indirect relations.

On the basis of the illustrations on Pl. LXII a few obvious connections may be noted in passing. The design on Fig. 1 recalls one found on a sherd from the so-called Old Period of Tell Halaf (*Hal.* Pl. liii, 1). Checker-board designs (Fig. 7) and cross-hatched diamonds (Fig. 19) are well known from Arpachiya,¹³ not to mention other related sites.

¹² Cf. *AASOR*. IX. 40 ff., and Frankfort, *ASP*. 33, n. 1. For certain connections with the Indus valley wares see *ibid.* p. 26, n. 2, and for a general characterization of the Middle Eastern fabrics cf. the excellent summary by Childe, "Notes on Some Indian and East Iranian Pottery," *Ancient Egypt*, 1933, pp. 1-11. The pottery from Sakje Gözü has been discussed most recently by Bittel, *Kleinasien* 12. With Frankfort, Bittel recognizes a special Syro-Mesopotamian group that comprises such sites as Tell Halaf, Carchemish, Gawra, and Arpachiya (*ibid.* n. 1). Bittel places Tell Billa in the same category (*ibid.*), which is surprising in the work of so careful a scholar; so far as known, Billa is not earlier than the Jemdet Nasr period, and hence much too late for comparison with Halaf and Arpachiya.

¹³ Cf. e. g., *Ar.* Figs. 66, 71-72, 77.

Fig. 13 corresponds in shape and in certain details of design to an example from the el-Obeid period at Telloh (cf. *Telloh I*, Pl. xxvii, 1). A closer parallel is provided by a specimen from Ur, reconstructed in the University Museum. It will be remembered that the piece in question has been assigned to Str. XIII, a comparatively late stage of Early Gawra. Of particular interest are certain pieces from Str. IX, especially Fig. 15. Both shape and decoration recall late examples of the el-Obeid phase. We know now that Gawra XI-IX enjoyed a civilization similar to that of Str. VIII, characterized by a decided preference for undecorated wares. The presence of painted fragments under the remains of Str. VIII is therefore somewhat disturbing. But Mr. Bache informs me that the tombs found by him at the level of Gawra IX are definitely later than that stratum, though earlier than VIII. It would appear that after the destruction of Str. IX the site was used for a brief period by outsiders as a necropolis. The pieces typified by Fig. 15 are thus likely to be intrusive. They may have been brought from the outside during the burial period or, what is perhaps more plausible, they were dug up from lower deposits by the grave diggers who had taken advantage of the temporary abandonment of the site.

In turning now to the material from completely excavated levels, it should be emphasized again that Gawra VIII represents in its three phases the culmination of a civilization that had begun with Str. XI.

According to reports from Mr. Bache, there is little difference between the wares of Str. XI and those of Str. VIII. The

Stratum shapes remain virtually the same, and the pottery is generally plain, with but occasional occurrences of incised and burnished grey wares. Towards the end of Gawra VIII we note an increase in red-slip fabrics, particularly on scattered sherds.

As stated in connection with the architectural remains, extensive comparative material from other sites is lacking. This is particularly true of pottery, which often features local characteristics. It will not surprise therefore to learn that clear and significant ceramic connections with Gawra VIII are found only in prehistoric Nineveh, stage III. These are, however, unmistakable. I shall not dwell on the grey burnished and grey-slip wares of Gawra; the former are far more common in Nineveh III than they are on our site, and the latter are given particular prominence in the south, especially at Uruk. The resemblance in shapes is far more conclusive. The characteristic bowl shape of Nineveh III (cf. *Mal.* p. 163, and Pl. li. 11) is also typical of our stratum (Pl. LXIII).

20). The Nineveh pots with club-headed section (*Mal.* I. c.) are paralleled by the Gawra pots with ledge rims (Pl. LXIV. 46). The characteristic grooved rims of Nineveh III are common at Gawra (*ibid.* Fig. 44), and the ribbing technique of Nineveh (*Mal.* p. 164 and Pl. xlvi. 24) is also well attested in our stratum (cf. Pls. LXIII. 31 and LXIV. 48). The relationship of Nineveh III and Gawra VIII is confirmed, as we shall see, by the independent evidence of stamp seals.

The above correspondences involve primarily Gawra VIII-C and B, and the related underlying levels. Assuming that both sites record approximately the same rate of progress, we should expect in Str. VIII-A

and especially in VII traces of relations with Nineveh IV.
 "Billa Ware," That this is indeed so will be shown presently. In the meantime, however, a new type of pottery, which first appears in
 Gawra VIII-A- the uppermost phase of Str. VIII and is found also in Str. VII,
 VII. creates a difficult situation from a comparative standpoint.

For the relations of the new types are clearly with Nineveh V. It would follow that both Nineveh IV and V are represented simultaneously at Gawra. The problem is an involved one and it requires a full discussion; it will confront us again in the next chapter in which the dating evidence is reviewed.

The new ceramic material is well known from Tell Billa and has therefore been designated as "Billa Ware," a term that appears to be gaining in favor.¹⁴ The principal shapes are the chalice and pointed cup, both usually ornamented; the decoration is at first painted (Billa VII), but gives way gradually to incised types (Billa VI).¹⁵ Parenthetically, Billa VII represents the earliest settlement on that large mound,

¹⁴ Cf. its use by Childe, *New Light on the Most Ancient East* XIV. and 266, for material from Nineveh V, following the suggestion made in the *Museum Journal* XXIII. 267-68.

The specimen reproduced in Ebert's *Reallexikon der Vorgeschichte* XIV. Pl. xli, where it is ascribed to Fara (as cited in the above discussions), is in reality of uncertain provenience according to a kind personal communication from Prof. Frankfort.

¹⁵ See Bil. 252-54, 265-68, and *BASOR*. 48. 5-10. It may be of interest to refer here to the view of Przeworski according to whom the incised ware of Billa VI (and its Ninevite analogues) betray Anatolian influences; cf. his article "Epoka Kamienna w Azji Mniejszej [The Stone Age in Asia Minor]," *Przegląd Historyczny*, 1934, p. 138, n. 68. It is not impossible, of course, that this incised ware has a different origin from the painted pottery which it succeeds, and that the source of the former is to be sought in the west. If this view should prove correct, we would have here further indications of the unusually complicated character of the Jemdet Nasr period. But the question of prehistoric cultures in Asia Minor is still obscure, although Bittel and Przeworski have done much to clarify it. Further work in Alishar may add much needed material. Cf. also Götze, *Kleinasien* (*Kulturgeschichte des Alten Orients* III. 1. 3), 1933, pp. 21 ff.

at least in the east portion which alone has been excavated thus far down to virgin soil. From the very beginning (corresponding to a rather late stage in the history of Gawra) there are intimate relations between the two sites, which terminate only with the final abandonment of the older mound (at the time of Billa *III*). Quite appropriately, the younger tell continues occupied for more than another millennium and a half.

Let us return now to the problem created by the appearance of the Billa ware at Gawra and Nineveh. The illustrated specimens from Gawra are shown on Pls. LXIII ff., Figs. 30-31, 34 (Str. *VIII-A*), 56 (trial trench at level of Str. *VII*), and the out-of-place pieces, Figs. 162-63, which were re-used in Str. *IV*. The links between Billa and Nineveh *V* are particularly numerous. They are obvious enough and need not be listed in full. It will suffice to call attention to the identity of shapes as exemplified by *Mal.* Pl. liii and *Bil.* Pls. xlviii-lii; for designs cf. *Mal.* Pls. lv-lxi and *Bil.* Pl. lxix. The indisputable connection of the respective incised wares is established by the material given in *Mal.* Pls. lxii-lxiii and *Bil.* Pls. lxx-lxxi (Billa *VI*); note also the identical vertically pierced lug handles; clay and firing are also the same in both instances. As for Nineveh *V* and Gawra *VII*, both show the same treatment of the goat motive with characteristically upturned tail; cf. *Mal.* Pl. lvi. 10 and our Pl. LXXVI. 8).

So much for the occurrence of the Billa ware on the three sites under discussion. What gives this pottery added interest is its association with certain other specialized types, especially at Billa. There the ware in question occurs together with unquestionable examples of the Jemdet Nasr family. The high-shouldered jar with overhanging rim is sufficiently peculiar and limited in date to establish this relationship by itself (cf. *Bil.* Pl. liii. 4, 6). To make assurance doubly sure, Billa *VI* has yielded typical Jemdet Nasr cylinder seals. Lastly, the cycle is closed, and the complications are increased, by the occurrence both at Nineveh *V* and Billa *VI* of characteristic miniature suspension pots (cf. *Mal.* 172; not illustrated in the Billa publication).

I have called the situation complicated because as a result of the above discussion we get the following picture: Gawra *VIII-A* and *VII* produced specimens of the Billa ware, which is found on the latter site in levels *VII* and *VI*. Obvious parallels are furnished by Nineveh *V*. Now at Billa the pottery in question is associated with finds of the Jemdet Nasr period. At Nineveh that period is synchronized with stage *IV*; but the miniature suspension pots which come up at Billa with the

Jemdet Nasr finds are connected at Nineveh with what is regarded as a post-Jemdet Nasr stage (*V*).

If Gawra were out of this picture, the solution of the problem would not be particularly difficult. It is clear from Mr. Mallowan's account that his stage *IV* is a composite one and that it may have to be divided into two sub-periods (*Mal.* p. 165). The internal evidence of the finds bears out this impression. For Nineveh *IV* contains the red-slip ware that is found in the south in the Uruk period, together with remains of the succeeding Jemdet Nasr phase of predynastic civilization in Mesopotamia. The relations of Billa *VII* and *VI* would thus be with the latter half of Nineveh *IV* and with Nineveh *V*. Unfortunately, however, the present work is hardly the place to ignore Gawra. It remains, therefore, to account for the fact that Gawra *VIII-A* and *VII* telescope the remains of two Nineveh stages that appear to be separated on the latter site.

Before this discussion is continued, the following point should be borne in mind. At Gawra we are dealing with well stratified deposits that were uncovered layer by layer; the material is fairly representative and the sequences are definitely established. At Nineveh, on the other hand, Mallowan was obliged to resort to the pit method of excavation. Though it is unlikely that work over a more extensive area would affect materially the results from Nineveh, particularly near the top of the pit, minor modifications are probable, as the author himself has stated. What we should like to know is whether definite Jemdet Nasr finds were intermingled with the other remains of Nineveh *V* to a greater extent than appears from the present *sondage*. Even then, however, conditions at Gawra would still necessitate a special explanation.

For it is certainly peculiar that the Billa ware appears at Gawra *VIII-A* and *VII* in negligible quantities whereas it forms the dominant pottery group in the corresponding strata at Billa and in the uppermost pit stratum at Nineveh. On our site the leading part is taken by a totally different class of fabrics, which has been found to typify Str. *VII*. It would follow that the ware in question is not introduced at Gawra at the same time as on the other two sites; this would explain the difference in proportional representation. But if this mode of approach to the problem is to prove at all profitable, the question should first be raised as to the origin of the Billa ware.

The lowest stage of Tepe Hissar, a site in the neighborhood of Damghan, northeast of Teheran, was excavated in 1931 by Dr. E. F.

Schmidt, yielding among other objects a rich collection of painted vessels and fragments. The commonest forms of Hissar I are footed bowls, or chalices, and pointed cups, usually decorated in varying shades of brown, precisely as in Billa VII. When the character of the designs has been taken into consideration, all suspicions of chance similarity disappear. A glance at the bird designs figured in *His.* Pl. lxxxviii will show that they cannot possibly be dissociated from the bird designs of Billa VII and Nineveh V. There are other points of resemblance, and not a few differences; the latter are perfectly natural in view of the distance between the regions in question, whereas the correspondences cannot but imply direct relationship. The original center of dissemination is still to be determined.¹⁶ While this is not the place to pursue the question in detail, it may be stated that the nearest analogues to our present wares are found in the districts to the east and northeast, where they may be regarded as branches of the so-called "Susa II" family.¹⁷

Now that we have the probable direction from which the Billa ware arrived in Upper Mesopotamia, some speculation may be permitted as to the tempo of that invasion. Both at Billa and at Nineveh the new fabrics dominate the scene; the former site was indeed founded, as we have seen, by the makers of this characteristic pottery. But at Gawra the ware remains in a distinct minority. Under these circumstances it is difficult to avoid the conclusion that Gawra VIII-A bears witness to the gradual infiltration of the new elements, prior to their decisive conquest of Nineveh and the founding of Billa. We should expect, of course, similar forerunners in the preceding stage at Nineveh. Future and more extensive excavations at that site may furnish a definite solution to this problem. It is certain even at this date that Mallowan's dating of Nineveh V must be moved back, as will be demonstrated in the next chapter.

But we must not leave out Gawra VII in this attempted reconstruction of events. It was pointed out above that the Billa ware straddles, as it were, the last occupation of Str. VIII and the following level. Now in the former instance the stratigraphic testimony is absolutely unambiguous; floors of rooms several metres high are ideal sequence determinants. But with Str. VII we are on doubtful ground because the archi-

¹⁶ For connections with Shahi-tump, in Baluchistan, see Childe, *Ancient Egypt*, 1933, p. 10.

¹⁷ For the "Susa II" group see now Frankfort, *ASP.* 65 ff. A direct connection between Nineveh V and Susa is indicated by the cylinder seal, *Mal.* Pl. Ixv. 15 as compared with the Susa seal S. 400; this striking correspondence is noted by Mallowan, *ibid.* p. 140.

tectural remains of this level are so few and flimsy, more so than at any other stage of Gawra including the latest ones. Does this mean that the specimens of the Billa ware assigned to Gawra *VII* belong in reality to the preceding layer? Hardly so. The fine chalice illustrated on Pl. XXIX. *a* could perhaps be earlier, since it is a trial trench find. The other pieces in question, however, fragmentary as they are, admit of no such treatment; they date definitely from a period following the destruction of Str. *VIII-A*. But are they necessarily contemporaneous with the bulk of finds from Str. *VII*? In the light of the preceding remarks it would appear that they are not. What may have happened is this: After a period of gradual infiltration of Billa wares in Str. *VIII-A*, the occupation is destroyed by the foreign makers of the new fabrics. For some time following this catastrophe our site remains unoccupied. The invaders seek wider areas than were available at Gawra.¹⁸ They settle on the broad expanse that is to become the site of Billa, and on the ample elevation of Nineveh. At Gawra, which is temporarily abandoned, we have only scattered and fragmentary witnesses of their presence in the land. At length the invaders are driven out by native forces, which are responsible for the ephemeral settlement of Gawra *VII*. A complete revival is attained in the brilliant period of Gawra *VI* and Billa *V*.

It is admitted that this reconstruction is unduly speculative. It merely adds point to the argument that in cases such as this interpretation had best be divorced from strictly factual presentations.

After this lengthly digression we are perhaps in a better position to determine the extent of foreign relations observable in the leading pottery types from the succeeding levels. It will be seen that Gawra *VII*

Stratum VII. has furnished proof of connections with settlements dating from the end of the Jemdet Nasr period. At Nineveh that

period begins with the upper deposits of stage *IV*. The occurrence of spouted vessels on both sites may be regarded as partial evidence of mutual relations; though not infrequent in Gawra *VIII-A*, tubular

¹⁸ This would naturally follow if they really came from the eastern steppes. In this connection attention may be drawn to the study by T. J. Arne on "La steppe turkomane et ses antiquités," *Geografiska Annaler*, 1935, in which the sudden break-up of the old painted pottery civilization is traced on the basis of material from numerous tepes. No definite reason for this collapse is assigned, but it appears that powerful forces were behind it. Does the appearance of the Billa ware foreshadow these changes in Central Asia? And, to take advantage of this brief speculative interlude, is the appearance of the Hyksos ramparts due to a similar, though later wave? Perhaps it is not entirely fortuitous that the pottery of Billa *IV*, which shows certain Hyksos affinities (cf. *Bil.* 272), recalls motives of Billa *VII* (*ibid.* 271).

side-spouts are distinctly on the increase in Str. *VII*. There is also a definite resemblance between the jar with long body and constricted neck, figured on Pl. LXV. 64, and the vessel from the upper half of Nineveh *IV* illustrated in *Mal.* Pl. li. 9 (cf. also *ibid.* p. 168).

More ample evidence for connecting Gawra *VII* with Jemdet Nasr occupations is furnished by the site of Jemdet Nasr itself. The following correspondences may be pointed out: use of a cream slip on unpainted vessels; presence of nearly vitrified wares; prevalence of flat bases in bowls and occurrence of ring bases in jars; potter's marks; popularity of spouted vessels (cf. the list of characteristics of the Gawra *VII* pottery, p. 45, and *JN.* pp. 230 ff.).

For the typical jar of Str. *VII*, with globular or oval body, constricted neck, and outsplayed rim, no parallels have been adduced thus far. The nearest analogues are provided, curiously enough, by some of the unpainted wares of Arpachiya (cf. *Ar.* Figs. 39. 4; 40. 2-4; 41. 20). They are assigned to the end of el-Obeid and the Uruk periods (Nineveh *III*), and are therefore much too early to synchronize with Gawra *VII* (for later specimens cf. the Ur type 83. *a* and *b*, *UC.* Pl. 256). Do we have here a case of sporadic revival of old native wares? It is possible also that both groups go back to the same outside source. If this latter suggestion should prove correct, we may see behind this pottery a southeastern element, which appears first at the end of the Obeid period and later again at the end of the Jemdet Nasr stage.

That Gawra *VI* and Billa *V* were both contemporaneous and culturally identical has been indicated more than once. The pottery from the two sites abundantly demonstrates this correspondence. Thus the char-

acteristic pot of Gawra VI, with globular body, disc base, small *Stratum VI.* rolled rim, and incised shoulder design in a herringbone arrangement (cf. Pl. LXVIII. 106-07) is also common in Billa *V* (cf. *Bil.* Pl. liv. 8). The cup illustrated *ibid.* Fig. 7 is identical with the Gawra specimen, Pl. LXVII. 104. Grey wares predominate in both occupations.

From Ashur *G* come stands (Herdständer) that are all but identical with the cult stands of our stratum. Cf. e. g., Pl. LXXIV. 202 and *As.* p. 48, Figs. 24-25; in each of these specimens we find the same triangular openings, while the first Ashur example exhibits a decorative design resembling that of our Fig. 202. The Gawra specimen shown in Fig. 203 corresponds, on the other hand, with a stand that seems to belong to Ashur *F* (*ibid.* Fig. 26). Attention should also be called to the anthro-

pomomorphic vessel from Ashur *G* (*ibid.* Fig. 32) which has a tripod base and where the arms are treated in a manner followed on the Gawra pot, Pl. LXXVI. 1, though the two pieces differ in other details. Occurrences of serpents in relief on larger vessels characterize both sites, but they are not conclusive inasmuch as they are found also in later occupations.

Farther down the line we may note certain parallels among the vessels from the Ur cemeteries, which may be regarded as typical of the southern centers. Perhaps the best examples of close correspondence are our Fig. 130 (Pl. LXIX) and *UC*. Pl. 253, type 44a (Predynastic-Sec. Dyn.). The large Gawra jar, Fig. 143, has a good analogue in *UC*. Pl. 263, type 197 (Pred.). The Gawra bowl, Fig. 96, is of finer ware than *UC*. Pl. 252, type 26. The pot from our stratum, Fig. 125, is, on the other hand, all but identical with type 53 of *UC*. (Pred.-Sec. Dyn.). The Ur specimens that have been thus singled out predominate in the early cemeteries and only a few of the corresponding types are assigned a Sargonid date.

The reserved slip ware, of which we have observed several varieties in Str. VI, poses an interesting problem. Elsewhere that ware seems to be confined to the Jemdet Nasr period. It is in those deposits that the peculiar treatment has been noted most recently at Nineveh (stage IV, cf. *Mal.* p. 167) and at Ur.¹⁹ At Gawra there is no trace of reserved slip wares at any other level except Str. VI. Manifestly, we are confronted here with a local specialization of a technique typical everywhere else of an earlier age. This fact may be interpreted as evidence of the debt that our Early Copper occupation owed to the last of the Chalcolithic cultures. At the same time, however, we must cease to view the ware in question as an unfailing criterion of Jemdet Nasr dating.²⁰

¹⁹ *Antiquaries Journal* XIV. 371.

²⁰ Extraordinary interest attaches to the fact that at Ghassul IV there is to be noted a ware decorated in the same specialized manner (*Ghassul* 113-14). We have seen that the same stratum of Ghassul disclosed possible architectural connections with Gawra VI (see above p. 149), and we may now add that the occurrence of serpents moulded on walls of clay vessels and on cult stands has also been noted on both sites (cf. *ibid.* Figs. 56, 61). Lastly, Ghassul has furnished violin-shaped figurines (*ibid.* Fig. 34), not identical with the mother goddess representations of Gawra VI (p. 138), but sufficiently close to them to imply at least an indirect relationship. This parallelism in a number of distinctive features certainly argues more than just a casual connection between Gawra VI and Ghassul IV. It implies at least proximity in date and confirms thus the early dating so vigorously defended by Albright (*BASOR*. 48. 10-13).

Finally, similarly treated ("band-slip") pottery has been found by Albright at Khirbet Kerak, at the southern end of the Dead Sea (cf. *AASOR*. VI. 27 ff.) and by two Turkish archaeologists at Ahlatlibel, in Central Anatolia (cf. Bittel, *Kleinasien* 73,

Both this and the succeeding stratum contain pottery that recalls Billa *IV*. Comparative material is limited, however, by the scantiness of the finds from the now much reduced Gawra levels. As for Billa, stage

Stratum IV was first uncovered in a small area near the east corner of the tell where clear stratigraphic data could not be obtained.

V. It is now clear that three sublevels are to be distinguished.

Billa *IV-A* contains painted wares of eastern origin (*Bil.* Pl. lix) which lead up to the Hurrian pottery of Billa *III*, without being closely related to it. Billa *IV-B* and *C* reveal relations with Gawra *V* and *IV*. But until this stage is more extensively studied at Billa we cannot name the sub-levels with sufficient confidence, and must be satisfied with a general reference to the stratum as a whole.

There is a clear connection between the Gawra jar, Fig. 155, and the one illustrated in *Bil.* Pl. lvii. 3. A specialized form of ribbing below the rim is seen on Fig. 147 and on two Sargonid types from Ur (*UC.* Pl. 265, types 224-25).

The relations between the pottery of this level and that of Billa *IV* were indicated in the descriptive account of the Gawra pottery (pp. 57, 59).

Stratum IV. Of particular interest is the infiltration of painted wares, precisely as at Billa. Finally, the re-employment at this time of vessels from an earlier period of painted pottery is worth re-

calling (cf. p. 60) because, to judge from the Billa material, there is a possibility of remote relationship between the wares of the two corresponding levels from that site (Billa *IV* and *VII*, cf. *Bil.* p. 271).

That the three uppermost levels of Gawra correspond to Billa *III* has also been indicated previously. The erection of a new tower or observation post was a comparatively simple matter when no more than the top of a conical mound was involved; hence the frequent changes of levels at the last stage of Gawra. But the extensive

Strata III-I. occupation which we know as Billa *III* enjoyed a considerably longer duration. It is not surprising, then, to find in the Gawra levels so little material suitable for comparative purposes. There is just enough to establish their relationship with Hurrian Billa and to place them thus within the enormous sphere of Hurrian influence.

120); in both instances the pottery is dated to about the middle of the third millennium. In the light of the results from Ghassul and Gawra, these distant sites acquire the necessary intermediate links. There still remains the question of the original center, and certain minor chronological problems stand in the way of a thoroughly satisfactory solution. At all events, the numerous threads that connect Gawra with the west cannot now be explained away by a convenient hypothesis of mere trade relations.

The extent of that civilization is by now well established.²¹ But the problem of the origin of Hurrian pottery still awaits solution. To reduce it to a schematic statement, we find here a series of painted patterns combined with certain characteristic shapes. The designs point westwards, with their various forms of spirals and numerous varieties of a characteristic bird motive. However, while certain elements of this decoration might be termed Aegean, the precise combinations are not duplicated in Crete, Greece, or the Cyclades. There are practically no connections with Anatolia, which could not therefore have been the route by which these designs and shapes arrived. We have thus an Asiatic people (the Hurrians) under strong influence of a presumably European culture. The identity of this latter source and the scene where this merger took place remain among the most tantalizing mysteries of Near Eastern archaeology.^{21a}

c. Terracotta Objects

(cf. pp. 62 ff.)

In reviewing the evidence provided by architecture and pottery we have finished with the two most reliable sources that bear on the question of foreign relations. In other groups of remains foreign analogues do not possess a similar comparative value. Certain building conventions or pottery types come to be identified with a given civilization at a definite time; even when influenced from the outside they still retain a chronological significance. But ornaments or seals may travel long distances before they are retained or imitated by others; and since such objects remain in use for many generations, their significance for dating purposes is correspondingly reduced. All this is also true of the majority of terracottas. Moreover, the range of shapes is generally limited in this class of objects. For ordinary occasions such classes as spindle whorls, loom weights, and sling pellets, or models of wheels, couches, sheep, dogs, and the like were made in much the same way in many different localities. Nor need simple elements of decoration be regarded as individualizing features. One cannot become exercised over the fact that incised whorls, e. g., are common in Anatolia as well as in Mesopotamia. The combination of an elementary shape and primitive ornamentation is

²¹ Cf. the present writer's "Ethnic Movements in the Near East in the Second Millennium B. C.," *AASOR*. XIII. 13-54.

^{21a} It is very suggestive that Ras Shamra, which yielded important Hurrian vocabularies, betrays in its West Semitic mythological texts an awareness of the sea otherwise unparalleled in contemporary documents from Hither Asia.

not sufficient to betray relationship when encountered in several districts at the same time.

When inconclusive parallels have been eliminated, however, we are left with certain analogues to selected Gawra terracottas, which appear to be of more than ordinary interest. To emphasize the chronological factor, the material will be surveyed in stratigraphic order instead of the typological arrangement adopted in the corresponding descriptive chapter.

The clay horns which occur in Gawra *VIII-VI* might suggest comparison with western objects of this type (recent finds have been reported from Cyprus²²). But even though the specimen found **Stratum VIII.** in the Eastern Temple (cf. p. 73) serves to stress the religious significance of the type, it is futile for the present to invade the Mediterranean in search of parallels for a Chalcolithic occupation.

The model chariots of this stratum furnish clear proof of the presence of vehicles in prehistoric Mesopotamia. No. 3, Pl. XXXIV. c, is virtually duplicated in the Early Dynastic *A*-Cemetery at Kish (*Sumer. Pal.* II. Pl. xlvi. 1, specimen 3). At Gawra, too, this type is found in later times (Str. *VI*).

Being no longer concerned with purely typological developments, we pass over the terracottas from Str. *VII* and turn to the succeeding level. Here we find several pieces of outstanding significance for comparative **Stratum VI.** study. The horse figurine on Pl. XXXVI. 4 has a remarkably close companion piece from the *A*-Cemetery at Kish (*Sumer. Pal.* II. Pl. xlvii, 11, lower figure; a similar piece is illustrated *ibid.* upper figure). There is no doubt in Mackay's mind (*op. cit.* p. 213) that the Kish figurines are models intended to represent horses. Now the presence of the onager (or dziggetai) in early Sumer is now generally admitted, as we have seen (cf. pp. 70 ff); but the long-held opinion that the horse did not reach Mesopotamia before the end of the third millennium still has many adherents. The terracotta specimens from Kish are isolated in the south, which may account for their omission from several recent discussions. In the light of the material from Gawra, however, these examples assume added importance. It has been shown that the horse was represented on our site by a number of models, and attention was called to the fact that corresponding figurines have been found in the fifth stratum of Billa. Is this greater frequency in the north a true index of actual conditions at the beginning of the

²² *ILN.* 5000. 246.

third millennium? In other words, was the horse in reality rare in the south before the time of Hammurabi, and therefore ignored in written records? At all events, the animal was known in Sumerian times, however little we may be informed on the subject of its distribution. Even in the second millennium horses were comparatively expensive in Mesopotamia, as is evident from the Nuzi records. The process of acclimatization may have been retarded by economic considerations.

The next object to command our attention is the "covered wagon" (Pl. XXXV. *a*. 2). This specimen has been compared with one from Ul, in Transcaucasia, and a very similar one from Sajur, in Northern Syria. But Przeworski, who has compared these specimens, is misled into dating the Gawra model at c. 2200 B. C.²³ It will be demonstrated in the next chapter that Gawra VI must be placed in the first half of the third millennium. Now the covered wagon is a stranger among the hundreds of chariots known from Mesopotamia. The model obviously represents a foreign type, which was apparently at home in Transcaucasia and Transcaspia. This provenience is suggested by the specimen from Ul²⁴ and the derivation is enhanced by the fact that such chariots are popular in those regions to this very day. The Gawra example renders thus plausible an early date for the model from Ul. What is more important, it constitutes tangible proof of relations, at least of a commercial nature, between Gawra VI and the transmontane regions. The Early Copper age was plainly a witness of interrelations on a scale unheard of in Chalcolithic times.

The next two objects will take us even farther afield. They are the stamp illustrated on Pl. XXXVII. *b*. 2, and the gaming piece, *ibid. a*. Both have analogues in the Indus valley. The former has a square stamping surface with a design of small blocks arranged into concentric

²³ Cf. Świątowit XV. 51 f., following Christian's review of my first report (*Mitteilungen der Anthropologischen Gesellschaft in Wien* LX. 62 f.). While the dating of trial trench material is necessarily tentative, the level at which the chariot was found (together with the wheeled animal and the model couch, Pl. XXXV. *a-b*) was either that of the "Shrine" (now known as belonging to Str. VIII-A) or the one immediately above it (in this particular corner of the site — Str. VI); this was made plain in *AASOR*. IX. 34 f. The precise spot (K 4, cf. *ibid.* Fig. 5) cannot possibly be identified with any stratum later than VI, and the evidence of terracotta analogues obtained from this latter level in systematic excavations leaves no room for doubt that the chariot came from Gawra VI. That this occupation is nearer the beginning than the end of the third millennium is now abundantly clear, and my original dating (Early Dynastic, cf. *ibid.* 49) is thus confirmed.

²⁴ For other early four-wheeled wagons cf. *M-D.* II. 554-55.

squares. Among the stamp seals found at Mohenjo-daro there is a specimen made of grey faience, with square surface and a pattern of plain concentric squares (*M-D.* III. Pl. cxiv. 516). A similar seal, but of alabaster, was found in an Akkadian house at Eshnunna (*Asm.* II. p. 50, Fig. 32, third row). While in each case we have a different material, shape and design are remarkably alike, and there is little difference with regard to date, for Gawra *VI* will prove to extend to the beginning of the Sargonid period.

The connection between the gaming piece from Gawra *VI* and the Indus dice was pointed out above (p. 82). The Mohenjo-daro specimens are described in *M-D.* II. 551-2, and illustrated *ibid.* III. Pl. cliii. 7-10. It is likely that both Gawra objects just discussed are ultimately of Indian origin.

A parallel for the common Gawra bobbin may be seen in a roughly contemporary Anatolian specimen, which is, however, of bone (cf. *Alishar* IV. p. 71, No. b752 [Str. I]). A later occupation produced a similarly shaped object of stone (cf. *ibid.* p. 171, No. b2605); their use has not been recognized.

The model of a hedgehog, Pl. XXXIV. *a*, which comes from Str. *V*, *Varia.* may be compared with somewhat similar representations from the temple of Shushinak, in Susa, *DEP.* VII. Pl. xxiii.

The chariot from Str. *IV*, illustrated on Pl. XXXIV. *c.* 2 has many obvious parallels in the south. But such connections are without direct significance at a comparatively late historical period. The model couch (Pl. XXXV. *b*), though early (Str. *VI*), is one of those ubiquitous products that vary little in details wherever they may be encountered.

d. Stone Objects

(cf. pp. 83 ff.)

The best that can be said at present on the subject of the stone work of prehistoric Mesopotamia is that here is a discipline with a promising future. Exploration of Chalcolithic deposits has barely begun, and many are still unaware of the fact that Neolithic occupations did exist in the land. When it comes to early historical settlements, we find that until recently attention was practically monopolized by the sculptor and the seal-cutter. Other stone industries which survived the industrial revolution brought about by the advent of copper have been neglected to all intents and purposes. Under these circumstances, and because of the parallel though independent developments that characterize many important classes of stone objects, comparisons need not detain us long.

Among the Gawra mace-heads, the specimen illustrated on Pl. XLII. 1 was found to be unique by reason of its partial perforation, which extends only three-fourths of the way (p. 87). The object is of marble and it had seen considerable use. It has been assigned to Str. VI, but since it was found in a trial trench this ascription is not altogether certain. Now the same type of hole has been noted on a single alabaster piece from Mohenjo-daro (*M-D.* II. p. 460, and *ibid.* III. Pl. cxxxiv. 27), where it belongs to the Intermediate period. The apparent discrepancy in dates and the isolated nature of these finds, however, compel us to set no store by the existing similarities.²⁵

Most of the Gawra weights appear to have been based on the shekel, as we have seen (cf. p. 92). In addition to these evident relations with the rest of Mesopotamia, Col. Belaiew suspects connections with Susa and Mohenjo-daro (p. 95). Lastly, Str. V furnished weights that seem to have a connection with the SU system (*ibid.*), the origin of which is obscure.

For the so-called "Hut Symbol" (Pl. XLIV. c) Andrae has adduced parallels from Ur, Tello, and Tell Asmar (*Die Ionische Säule*, pp. 32 ff.). This interpretation has lately been shaken somewhat by the occurrence of a number of such specimens, both of stone and terracotta, in Gawra X and IX, which would argue a more utilitarian background than is assumed by Andrae. The connections as such are, of course, beyond dispute. Since the Gawra examples are earlier than the above parallels one is tempted to place the origin of these objects in the north; but the available evidence is not conclusive either way.

Lastly, reference should be made to the phallic object (Pl. XLVI. b) from the Eastern Temple. It furnishes fairly conclusive evidence that the people of Gawra VIII practiced circumcision, and is thus a potentially valuable element in a study of foreign connections. Unfortunately, however, its significance is for the present negative. There is no indication that circumcision played any part in the religious life of the Sumerians, Akkadians, or Assyrians (cf. Ebeling, *Reallexikon der Assyriologie* II. 18). The practice was characteristic, on the other hand, of the Western Semites and Hamites, too large a field for practical purposes; hence the possibility of an ultimate connection between the founders of the civilization culminating in Gawra VIII and the Semito-Hamitic family is extremely remote, although it cannot be disproved at present.

²⁵ It may be noted in this connection that a similarly bored mace-head of limestone was found by Hall at el-Obeid (cf. *Al-'Ubaid* Pl. xxiii. 3, spec. 115366, and p. 51); but this particular piece does not appear to have been completed.

e. Copper Objects

(cf. pp. 101 ff.)

It has been indicated that Gawra *VI* furnishes an excellent illustration of what is meant by the term "Copper age." Chalcolithic occupations such as levels *VIII* and *VII* made, of course, some use of this metal, but Str. *VI* is actually typified by it. So sudden and radical had been the shift in emphasis that to the excavators the occupational debris of the sixth stratum appeared to have been tinged with green.

This concentration in one level is not without its advantages in a survey of foreign relations. For the results may focus our attention not only on the cultural affiliations of our stratum, but also on its chronological position.

Naturally, the closest link is with Billa *V*. A solid instance of it is supplied by the massive axe illustrated on Pl. XLVIII. 3, which has a Billa counterpart that is identical in shape, but in an even better state of preservation. Incidentally, a later specimen of this type comes from a burial of Ashur *E* (cf. *As.* Pl. 60, bottom row). Spears from Gawra of the "pike-head" type (not illustrated in this volume) are paralleled by a number of examples from Billa. A particularly interesting specimen from the latter site is published in the *BASOR.* 50, p. 12.²⁶ Marked specimens of the same type of weapon are known from the Ur cemeteries, where they are confined to pre-Sargonid times (cf. *UC.* p. 303, and Pl. 227, type 1). This three-cornered connection is reinforced in part by the presence in Billa *V* of the short javelin form exemplified by Woolley's type 2 (*ibid.*).

The adzes of Gawra *VI* are again paralleled in the Early Dynastic deposits from the south; cf. e. g., Pl. XLIX. 5 with *UC.* Pl. 229, type 1, and *Telloh I.* Pl. 50. 1. The collared socket (Pl. LXXXII. 29) occurs in this Gawra group but once; it is common, however, in the south (*UC. loc. cit.* type 2). A further link with Ur is furnished by the razor, Pl. XLIX. 2, to which there are a number of parallels from the Early Cemetery and also from Sargonid graves (*UC.* Pl. 231); reference may also be made to an Ashur analogue (*As.* p. 41, Fig. 17).

The so-called blade-axes (Pl. XLVIII. 4, 8) have a wide distribution. Of special interest are the close parallels from Susa (*DEP.* XIII.

²⁶ Under the inappropriate title of "lance-but."

Pl. i, Figs. 11-12), and Mohenjo-daro (*M-D.* III Pl. cxxxviii, Figs. 1, 5, 7-8, 10; cf. also *ibid.* II, p. 495).

The peculiar feather-holder hairpins from Gawra (Pl. L. 4) provide an interesting variant to a type well known from Ur (*UC.* Pl. 231, type 5), which Frankfort has traced through the Caucasus and up to Central Europe (cf. *ASP.* 52, and Fig. 7).²⁷ The toilet sets are again familiar from Sumer; cf. *UC.* p. 320, and *Sum. Pal.* II. Pl. xlivi. 1 In the same two sites, Ur and Kish, we have copper bowls with handles (*UC.* Pl. 238. 95; *Sum. Pal.* II. Pl. lvii. 11), which recall our frying pan (Pl. LI. b).

Without exhausting the available material by any means, we have pointed out connections between certain copper objects from Gawra VI and corresponding pieces from Billa, Ashur, Kish and Ur, Susa and Mohenjo-daro, and finally also from the Caucasus and Central Europe. Nearly all the pieces under discussion are of such a nature as to preclude chance similarities. What is the bearing of these wide-spread interrelations? They constitute first-hand evidence of the broad international background of the Copper age, in which the sixth township of Gawra proves to have played an important part. They help to explain, in fact, how history was made, and prehistory left behind, thanks to the realization of the full potentialities of this material. But which of those numerous centers was the source of the new knowledge? Frankfort has recently revived the view that Caucasian metallurgy was the dominant factor in this progress (*ASP.* 53), supporting his conclusion, as usual, with fresh and telling arguments. But a criticism of this position is voiced by Przeworski (*Światowit* XV. 55): While the objects under discussion are scattered over northern areas, their earliest occurrence has been recorded in Mesopotamia. The Caucasus can be shown to have depended frequently upon Mesopotamia, serving merely as an intermediary with Southern Europe; is it likely, then, to have taken the initiative in metallurgy? These two conflicting theories have one positive feature in common: they emphasize, indirectly, the urgent need of further information on the subject. We shall be groping in the dark until the underworked regions above the Fertile Crescent have been subjected to thorough exploration. One can scarcely think of more intriguing archaeological prospects.

²⁷ Cf. also the "Schaufelnadeln" discussed in Ebert's *Reallexikon der Vorgeschichte* 8, p. 398, and illustrated *ibid.* Pl. 131. I, o. Note also the parallels to our vase-headed pins, *ibid.* p. 414 and Pl. 135. m, p.

f. Seals and Seal Impressions

(cf. pp. 118-132)

There is at Gawra, it will be recalled, a clear stratigraphic division between stamps and cylinders. Up to the latest phase of Str. *VIII* the stamp seal is the only known type. In Str. *VI*, on the other hand, cylinder seals have the field entirely to themselves. Only Gawra *VII*, a period of transition in more respects than one, tolerated the two types side by side. The cylinder is thus plainly an intruder, and its decisive victory over the stamp reflects a radical cultural change which reached fulfillment at the end of the Chalcolithic period.

It is a well known fact that our knowledge of Near Eastern stamp seals rests on stylistic deductions rather than on stratigraphic data. Material from established sequences is rare, and Herzfeld has rendered *Stamp Seals* therefore a valuable service by evaluating clearly the principal internal criteria in his penetrating study on the subject, which appeared in *AMI* V. 49-124. It is fortunate, nevertheless, that we need not rely on internal evidence exclusively.

A group of stamp seal impressions from Nineveh bears an unmistakable relationship to the Gawra seals and impressions of the stamp family. From a stratigraphic standpoint the connection may seem a little surprising. For the Nineveh specimens were found in stages *II* and *III*, towards the end and immediately after the earlier period of painted pottery, whereas the Gawra parallels date for the most part from Str. *VIII*, or nearly the end of the Chalcolithic period. When it is remembered, however, that several closely related occupations preceded Gawra *VIII*, the above glyptic correspondence ceases to be strange; seal impressions from Gawra *X* and *IX* have proved indeed that the style in question enjoyed a long period of popularity.

On both sites we have the same technique and motives, as may be gathered from *Mal.* Pl. lxiv and our Pls. LVI-LVIII. Cf. e. g., the superposed animals in *Mal.* 14 and Gawra, Fig. 23; or the ibexes in *Mal.* 10 and Gawra 10. *Mal.* 19 assumes added interest when contrasted with our specimen 15. The triangle towards which the head of the Ninevite figure is turned back is not an arrow, but rather a pursuing bird; cf. Gawra 29.

It is noteworthy that the sealings assigned to Nineveh *V* show designs which are totally different in type and spirit (cf. *Mal.* Pls. lxv-lxvi). In the light of our review of the Billa ware (pp. 153 ff.) this result

is not unexpected. As for the origin of the present glyptic style, no definite single source can as yet be suggested. But the group as a whole reflects a highland background, as Mallowan has recognized. It is a branch of what Herzfeld has termed rather broadly the Elamitic-Caspian family, which he links with the Hittite group (an anachronistic name in this context). The best types of that highland animal style are illustrated in *AMI.* V. Fig. 22. Featured are goats with serpents and superposed animals, precisely as at Gawra. The same motives are met throughout the field. For the combination of two animals topped by a serpent (Gawra 24) we may compare the example illustrated in Hogarth, *Hittite Seals*, No. 68. Animals opposed head to tail (Gawra 28) are found as far as Tepe Giyan (*AMI.* V. Fig. 25, TG 2376). A possible parallel to Gawra 41 is furnished by another Giyan specimen (*ibid.* Fig. 14, TG 2352). And to continue with the same source, TG 2683 (*ibid.* Fig. 19) may be related to Gawra 16; the latter shows, however, the drill or bouterolle technique that typifies the early Sumerian specimens. It is significant that this isolated Gawra seal dates from Str. VII.

There is no further need to multiply examples. Few pieces in our collection are without some parallel among Herzfeld's illustrations, to which special attention has been drawn because they include much new material from the author's own collection. With the specimens of Herzfeld's Sumerian group (*ibid.* pp. 105 ff.) our pieces have little in common; the one exception (Fig. 16) is sharply set off from the rest.

A discordant note is introduced, however, by a series of seals recently discovered at Uruk and assigned to the fourth archaic level. What might cause concern at present are the Uruk animal motives (*UVB.* V. Pls. 24-26). We are faced here not only with superposed animals, but also with intertwined necks contrasting with a bold naturalistic style, features that seem to point to such Gawra specimens as Figs. 30-33 (crossed necks), and 38 (remarkable for its naturalism). But a closer examination will reveal that there is no cause for alarm. To begin with, there is the basic difference of roller seals (Uruk) as against stamps (Gawra). The fantastic creatures with intertwined necks are not on a par with the placid Gawra animals with crossed necks. The animals on Gawra 38 compare favorably with the best Uruk examples of animal art, but the piece in question happens to be unique both in style and contents. There is thus a deep gap between the north and the south, bridged only by stray marginal pieces which merely bring the underlying differences into sharper relief. A chronological connection is, on the other hand,

quite probable because of the occasional approximations in style. In other words, while the north maintained its predilection for the stamp seal and continued to favor its ibexes and serpents, the south had begun to carve its bulls and lions on the recently invented cylinder. Motives might be shared at times, but the treatment is not the same in both regions. The southern style reaches great heights and conquers many territories, invading even prehistoric Egypt.²⁸ It is to exercise a strong influence upon succeeding schools (cf. *UVB.* V. pp. 49 ff.). But the north remains true to its own traditions for some time to come; such fanciful combinations as a hind crossed at the neck with a serpent (Gawra 30) are not favored prior to Str. *VII*. A complete surrender follows only the final adoption of the cylinder seal; when it comes at last it marks the breakdown of the old local civilization.

To what people is the southern style to be credited? Few will be so rash as to deny the honor to the Sumerians. While the connection between the seals of Uruk *IV* and those of historical Sumer is as yet far from complete, no other theory can marshal better arguments in its favor. By the same token, however, the stamp seals of Gawra, Nineveh, and the whole huge area with which they communicate, must be assigned to a different source. The fine plaque from Gawra *VIII* illustrated in Fig. 29 (= Pl. LV. *a*) is a striking case in point. The design of an animal turning back its head towards a tormenting bird is a favorite northern motive, found on other specimens from Gawra (15) and Nineveh (19), and persisting in countless variations throughout the ages. It occurs, among others, in earliest historical Sumer (cf. *Al-'Ubaid*, Pl. xxxv. 1). But though the motive has been borrowed, the style was left behind. The mythological animal on the Sumerian plaque poses in a futile exhibition of stoicism while the bird is totally oblivious of its original quest, resting contentedly against the back of its intended victim. The northern picture is one of action: the bird tears into its prey, while the goat turns to it, alarmed and defenceless.

The cleavage between the two underlying mentalities can hardly be expressed in terms of the few hundred miles that separate Obeid from Gawra.

The Gawra cylinders afford no such study in contrasts. Strong in-

²⁸ These connections have been noted by the excavators; see especially *UVB.* V. 12, and 53. Cf. also Contenau, "La chronologie en Asie Occidentale et le couteau de Gebel-el-Araq," *RA.* XXIX. 30 ff. and Christian's remarks in *Deutsche Litteraturzeitung*, 1934, col. 1659. These suggested synchronisms are particularly welcome in view of the uncertain comparative chronology of the Egyptian Predynastic civilizations.

fluence from the south is manifest in a great majority of our examples. The main problem is one of synchronization with the center of origin.

Cylinder Seals. We have five cylinders from Str. VII (Figs. 42-46) and twenty-one from Str. VI (Figs. 47-67); the three seals and one seal impression that remain (Figs. 68-71) are from later levels and of no consequence in the present study. Now there is an unusual wealth of comparative material.²⁹ In addition to collections long known to students of the subject we have a number of notable recent accessions from excavated sites; the splendid material from the Ur cemeteries is of paramount importance, but valuable light is shed also by new or lately published material from Uruk, Fara, Telloh, Jemdet Nasr, Kish, Tell Asmar, and Khafaje, to confine ourselves exclusively to Lower Mesopotamia. Such designations as Predynastic, Early Dynastic, and Sargonid have gained appreciably in precision and the underlying characteristics of these periods are becoming increasingly more apparent; but the number of partially overlapping types is still considerable.

Since the principal relations of our seals are with a well defined area, exhaustive comparisons will not be necessary. What we need at present are criteria for dating; a few parallels will be sufficient for this purpose. The archaic character of the five specimens from Gawra VII is obvious at first glance. The geometric design shown in Fig. 46 is known in a number of variations; cf. e. g., *Telloh* I. Pl. 68. 3a, and the Iranian analogues conveniently presented by Herzfeld, *AMI*. V, Fig. 6. Note especially the concentric circlets, a good Jemdet Nasr motive.³⁰ Gawra 45 is an archaic example of a scene that requires centuries to attain the elaborate form in which it is known in Akkadian times (cf. *Iraq* I. Pl. iii. e-f). Gawra 44, with its spread eagle and tree divided by festoons, has many close parallels, among them one from the earlier part of the Ur cemetery (*UC*. 85, on Pl. 199). The specimen with two registers (Fig. 43) would be betrayed as early by this fact alone. The animal group in the lower register has a good counterpart in the lower scene on one of the earliest cylinders from Ur (*ibid.* 39), while the upper portion is a welcome departure from the stock motives of the south. The primitive character of the fragmentary specimen of bone (Fig. 42), with its telltale boute-rolle work, is self-evident.

The seals of Gawra VII thus prove to date from the end of the Jemdet Nasr and the beginning of the Early Dynastic periods.

²⁹ Cf. above, p. 118, note 1.

³⁰ See *Mal.* 140.

Gawra VI continues from where the preceding level left off. The splendid piece with circlets and bold geometric treatment of the animal motive (Fig. 47) is a forceful reminder of the Jemdet Nasr style (cf. e. g., *JN.* Pl. lxxiii. 17); but here the necessary row of animals depends upon repeated rolling of the bead-like cylinder. The geometric pattern (Fig. 48) is again hardly later than Early Dynastic (cf. *UC.* 80; *Sum. Pal.* II, Pl. xli. 11, and the discussion of the "eye" motive in *AMI.* V, 118 f.). The heraldic designs on Figs. 49 and 50 are clearly pre-Sargonid (cf. *UC.* 87-89), and the same ascription applies to the free hunter and crossed-animal scenes in Figs. 51-52. Bird-like heads are frequent in the Ur cemeteries, and they are represented also in Kish-A (*Sum. Pal. loc. cit.* 6). Sun god, Ea, and Zu-bird scenes (Figs. 57-58, 62-64) have been found in the later part of the pre-Sargonid cemeteries at Ur (cf. *UC.* 270-71, 274, 277-78, and the like); they carry over into later times. A few pieces, however, such as Gawra 54, e. g., will be regarded as definitely Sargonid. It is not my purpose to oppose the view that Gawra VI reached down to the period of the kings of Akkad. At the same time I am not sure that what we mean by Sargonid coincides exactly with that period. The art of the Sargonid age did not begin with the conquests of its eponymous hero, any more than his political power was the miraculous product of a single generation. Nearly a century before Sargon an early Sumerian ruler like Entemena uses in his inscriptions a Semitic term for battle,³¹ which is certainly instructive, and apparently earlier still the inhabitants of Mari³² inscribe their statues with Semitic legends. "Akkadians" were clearly a power to be reckoned with long before Akkad was raised from obscurity owing to the political exigencies of an expanding young empire. Are we not to presuppose an analogous period of development in "Sargonid" art? Strong endorsement can therefore be given to the view of Legrain that "the art of Sargon should be called the art of Kish, and may prove pre-Sargonid" (*UC.* p. 326). Similarly, the suspect "Sargonid" seals of Gawra VI are quite likely to antedate the time of the *sar tamhari* "King of Battle."

The foreign relations of the peculiar Gawra seal, Fig. 67, were touched upon previously (cf. p. 130 f.). Connections with Anatolia,

³¹ Cf. Cone B. 26. The word in question is *dambara*, used later in the legendary title of Sargon "King of Battle."

³² Cf. the preliminary report by Parrot in *Syria XVI*. 1 ff. See also the discussion by Frankfort and Parrot in *RA.* XXXI. 23 ff.

Cyprus, and possibly even with Egypt were mentioned briefly in *BASOR.* 55. 2-3, and they need not be repeated here. Nor need the references be multiplied, as they can be, for our piece is after all an isolated example. It will suffice to regard it as a reminder that Gawra *VI* was capable of a westward orientation,³³ for all its dependence upon the glyptic art of Sumer.

g. *Varia*

(cf. pp. 116 f.; 133 ff.)

The evidence of the remaining finds from Gawra may be surveyed in a single section. There is nothing to be said about the bone objects, which were too scanty and inconclusive for our present purposes. The beads may be reserved for a future study because they are representative thus far mainly of Str. *VIII*, but appear in the lower levels in larger quantities. The pendants, too, are found in increasing numbers in the lower deposits; for the present a general reference may be made to the splendid collection from Arpachiya, *ibid.* pp. 90 ff.

The piece of shell inlay, Pl. LIII. *b.* 4, is paralleled at Mohenjo-daro (cf. *M-D.* III. Pl. clv. 31). Mackay refers to this type of design as "stepped," and he points out that it occurs on various eastern wares as a painted motive of decoration (*ibid.* II. 566). The inlays, however, are much later than the painted pottery in question. The Gawra specimen was found on the surface, but the Indus analogues suggest Str. *VI* as a very likely source.

What is still left is a number of amulets. The double-bull type is found in Billa *V* and it occurs also in Nineveh, where it is dated provisionally to the Early Dynastic period (cf. *Antiquity* V. 433, Figs. 37-38, and p. 436).

The marble figurines of the mother goddess (Pls. LIII. *b.* 3 and LIV. *a*) occur, as stated before, also in Billa *V*; this correspondence is of outstanding importance since it establishes the presence of the type in Mesopotamia in the Early Dynastic period. A similar piece has been uncovered recently at Khafaje (*Asm.* III. Fig. 63), and a kindred example is known from Serrin, in the Middle Euphrates valley (cf. Evans, *Palace of Minos* I. 49). But the bulk of these "idols" comes from Asia Minor (Bittel, *Kleinasiens*, 36 ff. and 74 f.) and the Aegean (V. Müller, *Plastik*, pp. 30 ff. and Pls. vi-vii). The violin-shaped marble figurines are, however, best known from the Cyclades (Evans, *op. cit.*, 45 f.).

³³ See above, note 20.

That the cult of the mother goddess was wide-spread in Western Asia from earliest times is a fact that requires no stressing. If any borrowing is to be assumed, the Aegean was probably on the receiving end. But the particular symbol of this cult which we have been discussing betrays its western, if not directly Cycladic origin by its peculiar form. Since these objects are attested in the Early Copper age, which brought with it commercial intercourse on an unprecedented scale, we are not surprised to find a rather clear indication of relations with the west of Anatolia and perhaps also with the islands beyond.

To the west seems to point also the unfinished amulet illustrated on Pl. LXXXV. 6, if it really represents a variant of the double-axe type. The closest relations would in that case be with Arpachiya (*Ar. Pl. vi. b*, top row), which accords well with Str. XI to which the object apparently belongs. It is in Crete, however, that the double-axe has a demonstrable ritual significance. But as Mallowan remarks (*ibid.* p. 96), the date of the Arpachiya examples is earlier than anything of the kind in Crete. Is the ultimate origin of the type Oriental?

Summary

The scattered threads of the foregoing inquiry may now be gathered up. Cultural ties that may have appeared weak or dubious will gain in significance when the combined evidence of the several groups of remains has been arranged stratigraphically. Our main interest lies in tabulating for each level reasonably clear links with at least one well known outside center. Where this is feasible, further analogues of the civilization thus identified have not been cited. But where a suggested connection is open to dispute we have sought what support there is in cumulative evidence. Finally, interrelations entailing chronological difficulties have been noted above. Instances of this kind will be signified by means of parentheses; they are cases of survival, late arrival, or reappearance of some cultural element in one of the areas under consideration. The same device has been employed to indicate connections that appear to be problematical or that are not sufficiently documented.

Stratum VIII

Nineveh III — Pottery: bowls, grooved and ledge rims, ribbing technique. Seals: animal designs on stamp seals or impressions.

Nineveh IV (with Str. VIII-A only) — Pottery: red-slip wares, spouted vessels.

Uruk *V* — Plan of White Temple.

Uruk *IV* — Recessed niches.

Iranian (and Anatolian) centers — Stamp seals: shapes and designs.

(Uruk — General plan of the Innin Temple of Karaindash; motives of animal art on cylinder seals from Str. *IV*.)

Stratum VII

Jemdet Nasr — Pottery: flat bases on bowls, ring bases on jars, potter's marks, spouted vessels. Seals: geometric designs.

Nineveh *V*, Billa *VII-VI*, Hissar *I* — Pottery: Billa ware.

(Ashur pottery antedating Str. *H*.)

(Arpachiya — Unpainted pottery.)

Stratum VI

Anatolia — Architecture: brick walls on rubble foundations.

(Pottery: reserved slip ware of Ahlatlibel).

Billa *V* — Pottery, terracottas, copper objects, marble figurines.

Ashur *G* — Cult stands, serpents in relief on jars, razors.

Ur, Early Cemetery — Various types of pottery, adzes, spears, hairpins, toilet sets, handled copper bowls, cylinder seals.

Kish-*A* — Adzes, handled copper bowls, terracotta horse figurines, cylinder seals.

Khafaje — Marble figurine of mother goddess.

Tell Asmar — Square stamp.

Anatolia (and the Aegean) — Mother goddess figurines.

Caucasus region and Europe — Model of covered wagon, spatulate hairpins, vase-headed pins.

Mohenjo-daro — Square stamp, gaming die, "blade-axes," shell inlay with stepped design, (weights).

(Jemdet Nasr occupations — Reserved slip ware.)

(Ghassul *IV* — Architecture: general plan. Pottery: cult stands, serpents in relief on jars, reserved slip ware.)

(Cyprus — Cylinder seal, Gawra 67.)

Stratum V

Ashur *E* — Architecture: Plan of Ishtar Temple.

Billa *IV-C* — Pottery.

(Susa — Models like the Gawra hedgehog.)

Stratum IV

Ashur *E*—Architecture: wall-benches (and general plan of temple).

Billa *IV-B* and *A*—Pottery.

Strata III-I

Billa *III* and its analogues—Pottery.

3. THE DATING OF THE STRATA

The outcome of the examination which is to follow has been foreshadowed by the recital of foreign relations. There is, however, this difference between the two sections: the preceding chapter dealt with cultural links, whereas now we are concerned exclusively with relative chronology. To be sure, external relations usually presuppose a common chronological basis. There are, however, instances of indirect contacts, which may seriously complicate our present problem. In addition, we desire to obtain a clear picture of dated sequences as opposed to one of the lateral connections of each level. The subject must be approached, therefore, from a different angle; and while the conclusions just reached will greatly facilitate our immediate task, questions peculiar to dating should constantly be borne in mind.

The relative chronology of Mesopotamia in the fourth and third millennia is now reasonably clear, thanks to the combined efforts of several recent expeditions. The results apply principally to Lower Mesopotamia, but there is a certain degree of correspondence in the findings from neighboring regions. The oldest stage is named after the painted pottery of Tell el-Obeid and it encompasses roughly the period of the earliest painted wares of the Near East. At Uruk, which may be employed as a standard because of the number of its archaic levels, this stage extends from Str. XVIII to Str. XIV. The next stage is signalized by unpainted wares, though these are often decorated with a slip; it is known as the Uruk period and occupies the deposits between Uruk XIII and IV. The last prehistoric phase is named after Jemdet Nasr and corresponds with Uruk III-II. The first historical age is referred to as Early Dynastic.¹ Among its many characteristics is the use of plano-convex bricks. Next we have the Sargonid period, followed by those of the Third Dynasty of Ur and of the Isin/Larsa kings. With the First Dynasty of Babylon we enter the second millennium. It goes without saying that this division into periods takes no account of political conditions; it embraces several historical dynasties which require no special rating in a broader scheme of cultural sequences.

Now these sequences, especially the three prehistoric or predynastic

¹ A convenient summary of the evidence will be found in Frankfort's *Archeology and the Sumerian Problem*. Cf. also *UVB*. III. 35 f., and my brief note "On Some Important Synchronisms in Prehistoric Mesopotamia," *AJA*. XXVI. 465-71.

ones, obtain to a certain extent in the regions to the north and also in Elam. But the correspondence is not complete. Apart from purely local differences, which are to be expected, the north enjoyed to all appearances an earlier start than has been observed in the south. Such sites as Nineveh, Arpachiya, Tell Halaf, and probably also Samarra,² contain settlements that very likely antedate the earliest occupations at Uruk and at Ur. Early Gawra belongs to the same group. If further research confirms this suspicion, a fourth prehistoric stage, preceding the el-Obeid period, will have to be recognized by Mesopotamian archaeologists. The present account of Gawra, however, is justified in steering clear of such a responsibility. The lower levels are known for the present only from trial trenches. Their chronology will be the subject of a future study.

In the preliminary account of the first campaign I distinguished, on the basis of two weeks of digging, three main stages at Gawra. The first one (then numbered Gawra I) was placed within the period of painted pottery. The second was delimited with the aid of incised wares occurring together with unpainted fabrics, and it was made to terminate with the stratum to which belonged the shrine now called the Eastern Temple (Str. VIII). The third stage began with the Early Copper occupation (the present Str. VI).³ The three prehistoric periods of Sumer had not yet been introduced at the time, and numerical designations had to suffice. Today those three main divisions of Gawra are still valid, with certain modifications and additions. We know definitely that the Copper age begins with Str. VI, which issues in the third and last major civilization represented on the mound. The six uppermost levels may thus be termed Late Gawra. Our old middle stage reaches to Str. VII and extends, according to present indications, down to Str. XII. Its typical pottery is undecorated. A further characteristic is a distinctly sparing use of copper. In cultural terms this phase is Chalcolithic; from a local standpoint it represents Middle Gawra. The lowest third of the site uses painted wares and, so far as we know, no copper whatever. Early Gawra is a logical name for it. Quite likely it will prove to be Neolithic for the most part if not throughout.⁴ The end of this period may be assigned to Str. XIII.

² Cf. *Mal.* 128, and for a broader, though incomplete, analysis see Herzfeld, *AMI*, V. 47.

³ *AASOR*. IX. 28 ff.

⁴ For the growing material bearing on the existence of the Stone age in Western Asia, cf. Przeworski's remarks in *Przegląd Historyczny*, 1934, pp. 129 ff.

But generalizations of this kind will not satisfy in the case of the completely excavated levels, *Gawra I-VIII*. We require more precise identifications, and in order to obtain them we turn first to Str. *VI*. When its date has been established we shall have a convenient starting point from which to proceed both down and up.

About this level we know, since this fact has been repeatedly stressed, that it marks the advent of copper as a dominant element in early civilization. The industrial revolution which had marked this advance and the exploitation of distant ore-containing centers which it entailed, with consequent ethnic migrations and far-flung commercial relations, made history in more ways than one. Does the evidence of southern centers confirm the suspicion that prehistory has been left behind and that we have moved up, in fact, to Early Dynastic times?

A glance at the tabulation presented at the end of the preceding chapter admits of no doubt in the matter. *Gawra VI* is connected with such reliable witnesses of the Early Dynastic age as *Kish-A*, the pre-Sargonid graves at *Ur*, and *Ashur H* and *G*. The connecting links comprise not only specialized specimens of copper work, but also distinctive terracottas and pottery types, which are perishable and often periodic, and hence conclusive for dating purposes. There can be no question of the underlying similarity in material and cultural backgrounds. The only problem is as regards the extent to which *Gawra VI* dovetails with the southern sites. The *Gawra* cylinder seals are for the most part types that are regarded as characteristic of Early Dynastic times. There are, however, also specimens of a later school of glyptic art, which ultimately becomes typical of Sargonid times. Some doubts as to the suitability of this latter term were expressed above (p. 172). They are borne out in the present instance by the evidence of the other groups of objects adduced for comparison. Thus the adzes and spears of *Gawra VI* and of its contemporary, *Billa V*, are not found in the south in Sargonid times. The inscribed spear from *Billa V*⁵ is betrayed as early by its shape and by the fact and character of the sign engraved upon it. We are obliged to conclude, therefore, that *Gawra VI* corresponds with the later part of the Early Dynastic period, bordering probably on the Sargonid age.

Absolute dates for the period are still a matter of lively debate. In round figures, the beginning of the Early Dynastic period may be placed at cc. 3000 B. C., that of the Sargonid Dynasty at about 2550 B. C.

⁵ Cf. *BASOR*. 50. 12.

The latest possible date for the end of Str. *VI*, a period of considerable duration as we have noted, would thus be the middle of the third millennium.

We shall next take up the dating of the two preceding levels. On the assumption that Gawra was not left unoccupied for a long time following the destruction of Str. *VII*, this latter level would require, on stratigraphic evidence alone, the beginning of the third millennium. It has been shown, however, that the two strata in question are separated by considerably more than just a few feet of debris. Between them runs the borderline that sets apart the Copper age from the Chalcolithic and prehistory from history. But we need not resort entirely to such theoretical premises. Comparative material comes again to our assistance.

The foreign relations of Str. *VII* point to Jemdet Nasr, Nineveh *V*, and Billa *VII-VI*. Locally the level is linked with Str. *VIII-A*. From a cultural standpoint we distinguish here two distinct elements, the Jemdet Nasr one and the one that is indicated by the Billa ware. Cylinder seals confirm the Jemdet Nasr dating, but the naturalistic designs on some of them seem to encroach upon ground assigned to the succeeding period. The combined evidence of these parallels is at first a little bewildering. Instead of the promised assistance comparative material would thus seem merely to produce confusion. The internal problems arising from this situation have been cleared up, however, in the preceding chapter. Our stratum proves in a final analysis to belong to the end of the Jemdet Nasr age and to the very beginning of the next period. Its date is accordingly the turn of the fourth millennium.

The Billa ware creates certain complications in this connection. It appears for the first time in Str. *VIII-A* and confronts us again in the present occupation. In both settlements it is quantitatively insignificant. The conclusion has therefore been drawn that the flourishing phase of that particular civilization was not represented at Gawra. The infiltration of the new ware began during the last occupation of Str. *VIII*. This level was eventually destroyed and while the invaders were leaving their mark at Nineveh (*V*) and at Billa, Gawra remained unoccupied. Str. *VII* witnessed only the declining years of the foreign culture in question. An unavoidable corollary of this view is that the Billa phase coincides with the peak of the Jemdet Nasr period. Since we have abundant evidence to the effect that the period in question was

of long duration, this theory presents no inherent difficulties. It is opposed, however, to the view of Mallowan who would date Nineveh *V* to the early part of the third millennium (*Mal.* p. 131). The validity of his conclusion will now be briefly examined.

At first glance, there appears to be little actual difference between our respective positions. For in cases such as this, where absolute dates are best avoided, my statement that the date of the ware under discussion is "the turn of the fourth millennium" is close enough for practical purposes to Mallowan's "possibly to be dated to the earlier half of the third millennium." But the real discrepancy is more fundamental than would appear from the above statements: we are referring to different sequences. Mallowan regards his stratum as "definitely post-Jemdet Nasr" (*ibid.* 129), while I find myself constrained to place all the Mesopotamian analogues of the Billa ware as contemporaneous with Jemdet Nasr. My positive reasons are that Gawra *VII* and Billa *VI-VII*, in which the disturbing ware occurs, underlie and clearly precede definite Early Dynastic deposits. Now at Nineveh there is a gap between stage *V* and the first period of Assyrian building in the earlier half of the second millennium (*ibid.* 131). Mallowan was thus forced to rely for his dating entirely on foreign analogues, not all of which were known to him.⁶ He was further misled by a Sargonid seal found in an unstratified context, but assigned by him tentatively to stage *V* (*ibid.*). Once committed to this theory,⁷ he was obliged to disregard certain definite and striking parallels with Jemdet Nasr (*ibid.* p. 156, n. 1 and p. 162) and to express the belief that the political center of gravity had shifted to the south during this period (p. 129). The brilliant background of Gawra *VI* certainly refutes this opinion.

Perhaps not the least interesting by-product of the foregoing discussion is its incidental illustration of originally different cultures coexisting in the same area.

⁶ The Billa material, e. g., was published too late to be utilized by Mallowan.

⁷ Mallowan's theory is anticipated in the remark of Frankfort that the pottery of Nineveh *V* is Early Dynastic (*ASP.* 72), and reflected in the statement of Childe that the ware in question need not be earlier than 2500 B. C. (*Ancient Egypt*, 1933, p. 10). The material must be dated, instead, before the Early Dynastic age. This result is to my thinking one of the important contributions made possible by the excavation of Gawra and Billa.

As regards the rôle of Nineveh in Early Dynastic times, it should not be forgotten that the evidence of a *sondage* is not necessarily applicable to the rest of so large a mound. We have, in fact, a reference to certain building operations by Manishtusu, of the dynasty of Agade (*AAA.* XIX. 105). But the center of gravity appears to have shifted elsewhere.

The dating of the remaining levels is relatively simple. Str. *VIII-A* marks the beginning of the Jemdet Nasr period, since the two preceding substrata belong in the main to the Uruk stage, as their foreign connections clearly show. To ascend now beyond Gawra *VI*, the stratum that immediately follows reveals close architectural connections with Ashur *E*, which is dated on inscriptional evidence to the period of the Third Dynasty of Ur (*As.* 23). But Str. *IV* is also related to the same Ashur level. Since the features of the underlying Ashur temple had not survived, we cannot tell definitely whether Ashur *F* bore a close resemblance to Gawra *V*. That there exists a strong possibility of such a relationship, which would place the latter well before the Third Dynasty, is indicated by the fact that Ashur *F* employed stone foundations (*ibid.* 22) precisely as did the present Gawra occupation. Moreover, Gawra *VI* and *V* share certain pottery types and peculiar copper objects, such as perforated caps joined over a bitumen core (cf. Pl. L. 9), all of which tends to move Str. *V* nearer to *VI* than to *IV*. We cannot, therefore, be greatly in error if we regard Gawra *V* as Late Sargonid. The three minor occupations designated as Gawra *III-I* are Hurrian and span the middle part of the second millennium.

In conclusion, we may specify the inter-stratigraphic gaps during which the mound appears to have been temporarily abandoned. Between *IX* and *VIII* the site was used as a burial ground. Following the conflagration that had reduced the buildings of *VIII-A* to masses of fused clay Gawra was again unoccupied for a considerable length of the Jemdet Nasr period. Many of the buried rooms were thus preserved to a height of three metres. Finally, the small area available after Str. *IV* had burnt down was not to attract other settlers for several centuries. It is significant that masses of scattered bones testified to the suddenness and violence of the catastrophe which had overtaken the fourth level. In each instance, then, there is archaeological evidence of desertion which confirms the results of our chronological study.

The conclusions reached in this inquiry are presented schematically in the following table.

GAWRA		HISTORIC AND PREHISTORIC PERIODS	CULTURES
L	I-III.	HURRIAN 14th-17th Centuries	B R
A	IV.	THIRD DYNASTY c. 2250 B. C.	O N
T	V.		Z E
E	VI.	SARGONID EARLY DYNASTIC c. 3000 B. C.	C O P P E R
M	VII.	JEMDET NASR	C H
I	VIII-A.		A L
D	B.		C O L I T
D	C.	URUK	H I C
L	XII.		
E	XIII.	OBEID AND EARLIEST POTTERY	N E O L I T H I C
A			
R			
L			
Y			

4. GENERAL RESULTS

Less than a decade ago Tepe Gawra was a "Great Mound" only to a handful of near-by villagers. The archaeological world had not heard of it. Today, the greatness that appealed to local pride is no longer in evidence. The mound, once tall and regular in shape, has been reduced to less than half of its original height.¹ Hemmed in by heaps of earth transferred from its upper strata, Gawra is not likely to impress again the Bazhwân and the Shebbek, and the Kurds and Arabs and Yezidis, who form the curiously mixed population of the neighboring settlements. In shrinking, however, in size and in the estimation of the villagers the site has assumed in the eyes of all who are interested in the past a significance that none could have foreseen a short time ago. Before being transformed into a series of little tells those upper layers had given up to the excavators their varied archaeological deposits. These have now told their tale which has been recorded in the pages of the present work. The material has been presented and the evidence evaluated. Owing to a combination of favorable circumstances the story is of more than ordinary interest. It remains now to bring out the most significant results of this inquiry.

To the student of ancient times the main appeal of Gawra is due to the fact that we have here a virtually unbroken record which begins far back in the Neolithic period and extends to the middle of the second millennium B. C. No other site in Northern Mesopotamia has shed light on so long a series of prehistoric and early historic occupations. Arpachiya was abandoned as early as the Uruk period. Nineveh witnessed the several prehistoric stages, but was quite deserted during the whole of the third millennium. Ashur and Billa were not settled before the end of Chalcolithic times, when Gawra and Nineveh had already participated in more than a millennium of man's gradual emergence into the full light of history. And the value of the Gawra evidence is enhanced by the clear sequence of its completely excavated levels.

Gawra *VIII* recaptures, thanks to the excellence of its architecture, the fame that it enjoyed as a lofty acropolis more than five thousand years ago. The true arch and the liwân, the windows and the niches

¹ Counting the levels excavated by Mr. Bache in the last two campaigns.

testify to the ability and resourcefulness of its builders, and the plan of the site as a whole is admirably conceived.

Gawra *VII* suffers in an architectural sense through its position between two outstanding occupations. It was manifestly inferior to the preceding township, and its successors showed, furthermore, little reverence for the underlying remains. But this level makes an important contribution, none the less, in illustrating the complex and composite character of prehistoric civilizations. In addition, it helps to establish the relative chronology of the remarkable painted pottery known as the "Billa Ware," and it serves to emphasize the fundamental difference between Chalcolithic and Early Copper times.

It would be difficult to overstate the manifold and far-reaching significance of Gawra *VI*. The township is an eloquent witness of the revolutionary changes caused by the rise of copper as a decisive factor in human history. Commercial ties link now the remotest corners of the civilized world. In this flourishing center dating from the beginning of the third millennium we find proofs of intercourse not only with Ashur and Sumer, but also with Iran and India, Transcaucasia, Anatolia, and the Cyclades, Syria and Palestine. The presence of the horse is abundantly attested for this early period. Economic considerations push into the background the ever-present ethnic and political conflicts between the mountain zone of the North and the lowlands of the South. After a period of wars and migrations a temporary balance of power has been attained. Restless peace-time activity brings great wealth and, incidentally, sows the seeds of future wars.

It has been stressed repeatedly that of the Gawra levels excavated thus far *VIII* and *VI* exceed in importance all the others. In both settlements agriculture and the textile arts provide employment for a majority of the inhabitants, while the seal-cutter and the potter also play important parts in the industrial life of their communities. The basic differences, however, are equally evident. The metal-worker of Gawra *VI* supplants the stone-craftsman of the earlier period. But none of these occupations furnishes either center with its principal source of income. The prosperity of Gawra *VIII* depends on the bounty and the custom of the devotees who seek solace and aid in the attractive temples of the acropolis. The place seems to have been ruled by a priestly oligarchy. The wealth of Gawra *VI*, on the other hand, was due plainly to the enterprise of its traders. The strategic position of the site on the cross-roads of important trade routes would assure the merchants of a

prominent place in the councils of the city. An analogous situation may be observed some four thousand years later in the medieval city of Mosul. Nineveh which should have been then, as it was often in other periods, the logical predecessor of the Arab metropolis, was unoccupied at the time, and Gawra appears to have taken full advantage of this turn of events.

The uppermost levels of Gawra were too limited in extent to be of more than local significance. Their historical importance is consequently restricted. The shrines of *Gawra V* and *IV* furnish certain analogues to the temples of Ashur and are valuable for the architectural information that can be gathered from their comparatively modest remains. As for *Gawra III-I*, these ephemeral posts serve merely to emphasize the fact that the Hurrians were the dominant cultural element in Northern Mesopotamia during the better part of the second millennium B. C.

It could not have escaped notice that the people behind the various civilizations presented in this work have remained anonymous thus far, except for the latest and least significant levels. In dealing with the successive occupants of *Gawra*, I have been referring to them as the inhabitants of this or that stratum, without attempting to identify them ethnically. There are good reasons for such evasive treatment. In the case of prehistoric occupations definite ethnic evidence is naturally lacking. The cultures in question are prehistoric largely because they are pre-literate and hence articulate only in terms of material remains. Inscriptional material with direct linguistic and political data is one of the main indications of historical times, which are thereby distinguished from the preceding stages. Now since writing does not appear before the end of the Chalcolithic age, we do not expect it at *Gawra* much before the sixth stratum. Unfortunately, none of the *Gawra* levels yielded any written records whatever, and we are obliged therefore to rely on archaeological evidence alone for the identification of even the historical settlements. And it is not until Hurrian times that this evidence is really unambiguous.

The problem has to be faced, however, before this account has been completed. It will be understood that the conclusions which follow are tentative, involving as they do a considerable amount of speculation. It is probable that the suggestions concerning our historical levels will be corroborated or refuted in the near future with the aid of fresh material from related occupations. But according to present indications,

Gawra *VIII* is quite likely to be successful in guarding the anonymity of its gifted inhabitants.

My reluctance to take up the ethnic question will be readily appreciated when it is realized that such an inquiry cannot steer clear of the Sumerian problem. The Sumerian origin of Mesopotamian civilization has been disputed in recent years by a number of scholars, and ably defended by others. I have voiced my own opinion on several occasions,² contending that the Sumerians had no part in the oldest prehistoric culture. The opposite view is held by a small group under the exceptionally competent leadership of Frankfort.³ The latest results from Sumer and Mari⁴ seem to cast further doubt on the theory of Sumerian priority, but the problem is by no means settled. And since the decision will have an obvious bearing on the history of human progress it is best to leave the matter alone until fresh and conclusive evidence has been obtained.

Happily, in the present discussion we are not concerned directly with the question of Sumerian origins. Gawra should not be regarded as representative of conditions in Mesopotamia as a whole or even in prehistoric Assyria. No one site, however important, is entitled to such a position. Moreover, the lowest deposits of the mound are still to be unearthed. What we wish to know at present is whether the Sumerians were responsible for the civilization of Middle Gawra, and specifically of Str. *VIII*. The answer must be unqualifiedly in the negative. The architecture is not typical of Sumer. When certain elements of it appear in Lower Mesopotamia they are regarded as intrusive and of northern origin.⁵ The glyptic art shows distinctly a highland orientation, while revealing an underlying mentality foreign to the Sumerians.⁶ Finally, the people of Gawra *VIII* appear to have practiced circumcision, which cannot be related to the religious life of the Sumerians.

But it is easier to give a negative answer than to make a positive suggestion. The material remains of the stratum under consideration have disclosed relations with the highland zone and some possible contacts with other undefined sources. We are faced with too many un-

² In *Mesopotamian Origins*, and later with modifications in two brief notes published in the *AJA*. XXXVI. 465-71, and XXXVII. 459-66.

³ Cf. his *Archeology and the Sumerian Problem*.

⁴ Cf. the conclusions of de Genouillac based on his latest results from Telloh, *Telloh* I. 17-19, and of Parrot, reporting on Mari, *RA*. XXXI. 189.

⁵ See Jordan, *UVB*. III. 36.

⁶ Cf. above, p. 170.

known factors. One helpful thread may be separated, however, from this maze: the likelihood of cooperation on the part of two or more ethnic elements in the creation of an eventually harmonious culture. It may be of interest to point out in this connection that within a radius of fifteen miles from Gawra there live today at least six distinctive groups speaking different languages or dialects and covering the range of worship from God to the Devil.⁷ This is not a novel situation, but rather a legacy of the past. It is paralleled in ancient times, though apparently on a less varied scale, and its beginnings may perhaps go back to the Chalcolithic age, long before Babel could have been made synonymous with confusion.

Gawra *VII* rescues us from these speculations, which are scarcely as fantastic as they must sound at first. The culture of this period is notably complex. It exhibits primarily southern influences, as we have seen from our examination of the cylinder seals. Whether these were introduced by the Sumerians themselves or, as I am inclined to believe, by Semites and "Japhethites" driven northwards by the Sumerians, is not of much moment in the present discussion. The old local tradition survives in the stamp seals and in much of the pottery. Let us not forget, however, the fact that the makers of the "Billa Ware" had arrived a short time ahead of the southern forces. In short, we have here a combination of which the modern Mosul district might have been proud. But unlike the preceding stage, the component elements of Gawra *VII* are capable of general identification.

In moving up from Gawra *VII* to *VI* one ascends to a totally changed world. Across that vastly significant border between pre-history and history we are confronted with a new ethnic balance. The old basic group which had built the eighth township and had furnished the ethnic substratum in the seventh settlement has vanished. The dominant elements are now recruited from among the Semites and Sumerians, while arrivals from Syria and Anatolia are also in evidence. With the old traditions uprooted and a newly acquired appreciation of economic values, Gawra *VI* must have been an effective melting pot. If we were to venture a guess as to the official language of the time we should name some prototype of "Akkadian." It was probably in some such dialect that the merchants of Gawra corresponded with their col-

⁷ In Bashiqah, where the headquarters of the expedition were located, Yezidis, Arabs, and two sects of Syrian Christians live and work peacefully side by side. Among our workmen were also Bazhwān, Shebbek, Kurds, and Turkomans.

leagues in Ashur. Some of these merchants may have gone forth at this early date to explore the commercial prospects of Cappadocia, where a number of centuries later we find prosperous business colonies which regard Ashur as their capital city.⁸

The shrines of Gawra V and IV were doubtless tended by Semitic priests trained perhaps in the temples of the southern capital. Yet even in the pursuit of their religious duties they are not to be secure for long. Soon they will have to make room for the worshippers of Hurrian deities leading once again the onslaught of northern forces upon the fertile plains of the south. The age-old conflict between mountaineer and plainsman recurs periodically with relentless regularity. Peoples, languages, and religions may change with the passage of the time; but the immemorial opposition of geographically and culturally disparate zones invariably outlasts the bonds of speech and creed.

With this hazardous survey our assignment has been completed. In tracing the ethnic background of the site we have been able to establish encouraging connections with the population of Late Gawra, but have made little headway in breaking through the reserve of the inhabitants of Middle Gawra. The fascinating task of digging up Early Gawra and continuing the investigation of the earliest civilizations of the East still lies ahead. The prize to be won is the discovery of the human element behind these remote stages of mankind's progress. Time will tell whether the goal is at all attainable.

⁸ For the latest discussion of the Cappadocian records cf. the Introduction to Gelb's *Inscriptions from Alishar and Vicinity, Alishar VI*.

IV. CATALOGUE OF THE ILLUSTRATED SPECIMENS

The following catalogue gives a list of all the objects illustrated in this book except the seals, which have been listed in Part II, Chapter 7. It specifies type, material, dimensions, field number, stratum and square or room, and present location. P refers to the University Museum, B to the Iraq Museum, and D to the Dropsie College of Philadelphia. Where no initial is appended the object has not been claimed by any of the above institutions. No. refers to photographed specimens and Fig. to drawn examples. As regards dimensions (l. = length, h. = height, w. = width, d. = diameter), unless otherwise specified, the maximum measurement is always the only one listed.

CATALOGUE

Pl. XXVI.

- a. Cup, handmade, greenish grey ware, cream slip, dark brown paint; h. 90, d. 104 mm. 1237. *XIII*, M12. P.
- b. Tumbler, handmade, buff ware, cream slip, dark brown paint; h. 104, d. 65 mm. 1282. *XIII*, M12. P.
- c. Jar, handmade, greenish grey ware, wet-smoothed, dark brown paint; h. 440, d. 540 mm. 1184. *XIII*, M12. P.

Pl. XXVII.

- a. 1. Jar, wheelmade, greenish grey ware, wet-smoothed, incised; h. 74, d. 62 mm. 5704. *VI*, M9. P.
2. Jar, handmade, reddish brown ware; h. 82, d. 102 mm. 1632. *VI*, R. 643. P.
3. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 99, d. 88 mm. 5143. *VI*, R. 684. P.
4. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 80, d. 154 mm. 5142. *VI*, R. 681. P.
5. Bowl, wheelmade, nearly vitrified dark grey ware, cream reserved slip; h. 90, d. 186 mm. 1504. *VI*, R. 625. P.
6. Pot, wheelmade, buff ware, wet-smoothed; h. 101, d. 118 mm. 5677. *VI*, O11. P.
7. Bowl, wheelmade, greenish grey ware, vertically burnished; h. 61, d. 148 mm. 1401. *VI*, K7. P.
8. Pot, wheelmade, greenish grey ware, wet-smoothed, incised; h. 67, d. 75 mm. 5726. *VI*, J7. P.
9. Pot, wheelmade, grey ware, wet-smoothed; h. 52, d. 68 mm. 5144. *VI*, M6. P.
- b. 1. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 40, d. 106 mm. 5725. *VIII-B*, K7. P.
2. Bowl, wheelmade, brown ware, wet-smoothed; h. 60, d. 105 mm. 1541. *VIII-A*, M7. P.
3. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 58, ds. 119, 158 mm. 5631. *VIII*, Q7. P.
4. Jar, wheelmade, green ware, red slip; h. 103, d. 94 mm. 5330. *VIII-A*, M9. P.
5. Cup, wheelmade, greenish grey ware, wet-smoothed; h. 85, d. 98 mm. 5751. *VIII-A*, M7. P.

6. Pot, wheelmade, greenish grey ware, wet-smoothed; h. 77, d. 96 mm. 5636. *VIII-A*, K8. P.
7. Jar, handmade, buff ware; h. 84, d. 99 mm. 5624. *VIII-A*, M7. P.
8. Jar, handmade, brown ware; h. 73, d. 73 mm. 5956. *VIII-A*, M10. P.
9. Cup, wheelmade, grey ware, wet-smoothed; h. 70, d. 67 mm. 5628. *VIII-B*, O7. P.

Pl. XXVIII.

- a. 1. Cult object, handmade, grey ware; h. 151, d. 201 mm. 5616. *VI*, O6. P.
2. Cult object, handmade, red ware; h. 118, d. 210 mm. 5617. *VI*, O6. P.
3. Cult object, handmade, grey ware, burnished; h. 690, d. 143 mm. 5849. *VII*, O5. B.
4. Incense burner, handmade, grey ware; h. 320, d. 200 mm. 5180. *IV*, R. 409. B.
5. Incense burner, from Billa III; cf. *Museum Journal*, XXIII, Pl. lxiii.
- b. 1. Chalice, wheelmade, dark grey ware, wet-smoothed; h. 225, d. 177 mm. 5195. *IV*, R. 408. P.
2. Cup, wheelmade, grey ware, wet-smoothed, incised; h. 153, d. 182 mm. 5197. *IV*, R. 408. P.
3. Cult object, handmade, red ware; h. 118, d. 210 mm. 5617. *VI*, O6. P.
4. Cult object, handmade, grey ware; h. 151, d. 201 mm. 5616. *VI*, O6. P.
5. Spouted pot, wheelmade, buff ware; h. 156, d. 193 mm. 5703. *VIII*.

Pl. XXIX.

- a. Chalice, wheelmade, buff ware, cream slip, brown paint; h. 80, d. 69 mm. 1058. *VII*, M8. P.
- b. Basket, handmade, buff ware; h. 72, d. 225 mm. 5065. *IV*, R. 409. B.

Pl. XXX.

- Incense burner, handmade, grey ware; h. 320, d. 200 mm. 5180. *IV*, R. 409. B.

Pl. XXXI.

- a. 1. Pottery smoother, dark grey stone; l. 46, w. 18 mm. 5670. *VIII*, O8. P.
2. Pottery smoother, buff ware; l. 93, w. 19 mm. 5491. *VIII-A*, O6. P.
3. Pottery smoother, yellowish buff ware; l. 57, w. 20 mm. 6071. *VIII*, O9. P.
- b. 1. Ladle, grey ware, dark grey slip; h. 250, d. 180 mm. 6072. *VIII*, Q6. P.
2. Ladle, red ware; h. 99, d. 102 mm. 5441. *VIII*, K7. B.
3. Ladle, red ware; h. 180, d. 115 mm. 5650. *VIII*, Q7. P.

Pl. XXXII.

1. Human figurine, buff ware; h. 97, w. 47 mm. 5167. *VI*, M6. P.
2. Human figurine, dark brown ware; h. 84, w. 42 mm. 902. A5. D.
3. Human figurine, buff ware, brown paint; h. 70, w. 71 mm. 5827. *VII?* Surface. P.
4. Human figurine, grey ware; h. 42, w. 18 mm. 5150. *VI*, M6. P.

Pl. XXXIII.

- Statuette, front (A) and back (B) views, brown ware; h. 200, w. 170 mm. 5997. *V?* Well, J7. P.

Pl. XXXIV.

- a. Hedgehog figurine, grey ware; h. 68, l. 89 mm. 5099. *V*, M6. P.
- b. Head of horse figurine, greenish grey ware; h. 102, w. 70 mm. 5169. *VI*, M6. P.
- c. 1. Chariot, greenish grey ware; l. 90, w. 87 mm. 5780. *VIII*, J8. P.
2. Chariot, greenish grey ware; h. 80, w. 51 mm. 5043. *IV*, M6. B.
3. Chariot, greenish grey ware; 72 x 37 x 32 mm. 5615. *VIII*, O5. B.
4. Chariot, grey ware; h. 64, l. 60 mm. 5370. *VII*, O9. P.
5. Horse figurine, buff ware; h. 62, l. 83 mm. 5723. *VI*, J7. P.
6. Head of bull figurine, grey ware; h. 55, w. 57 mm. 5781. *VIII*, O6. B.
7. Dog figurine, grey ware; h. 65, l. 88 mm. 5210. *VI*, K6. B.
8. Sheep figurine, brown ware; h. 40, l. 53 mm. 5878. *VIII-C*, M5. P.
9. Ram figurine, buff ware; h. 42, l. 46 mm. 5365. *VIII*, M7. B.
10. Sheep figurine, dark grey ware; h. 29, l. 43 mm. 5676. *VIII*, O6. P.
11. Goat? figurine, buff ware; h. 58, l. 83 mm. 5722. *VI*, J7. P.
12. Horse figurine, buff ware; h. 65, l. 80 mm. 6073. *VI*, K7. P.

Pl. XXXV.

- a. 1. Wheeled dog, reddish buff ware; h. 65, l. 100 mm. 904. *VI*, R. 620. D.
2. "Covered wagon," greenish grey ware; incised; h. 62, l. 68 mm. 905. *VI*, R. 620. D.
- b. Couch, greenish grey ware, incised, appliquéd; 129 x 79 x 42 mm. 906. *VI*, R. 620. D.

Pl. XXXVI.

- 1. Fragment of chariot, greenish grey ware; w. 104 mm. 1487. *VII*, M8. P.
- 2. Animal figurine, greenish grey ware; h. 70, l. 95 mm. 1606. *VI*, R. 638. P.
- 3. Ram's head spout, greenish grey ware; l. 51 mm. 1519. *VI*, R. 627. P.
- 4. Horse figurine, brown ware; h. 25, l. 54 mm. 1332. *VI*, K8. P.
- 5. Dog figurine, dark grey ware; h. 32, l. 55 mm. 1518. *VI*, R. 627. P.
- 6. Ram's head spout, grey ware; l. 57 mm. 1620. *VI*, R. 631. P.
- 7. Head of animal figurine; greenish grey ware; h. 61 mm. 6074. *VIII*, O6. P.
- 8. Human figurine, tongue relief, buff ware; h. 46, w. 27 mm. 6080. *IV*, surface. P.

Pl. XXXVII.

- a. Die, buff ware; 24 x 23 x 20 mm. 1663. *VI*, R. 620. P.
- b. 1. Stamp, grey ware; h. 77, w. 33 mm. 1345b. *VI*, R. 609. B.
2. Stamp, grey ware; h. 52, w. 45 mm. 1345a. *VI*, R. 609. P.
- c. 1. Whorl, deep buff ware; h. 21, d. 34 mm. 5905. *VIII*, M9. B.
2. Whorl, buff ware; h. 21, d. 39 mm. 5282. *VII*, M8. P.
3. Whorl, buff ware; h. 21, d. 33 mm. 5386. *VII*, M5. P.
4. Whorl, buff ware; d. 39 mm. 5079. *III*, R. 311. B.
5. Whorl, deep buff ware; h. 19, d. 36 mm. 5604. *VIII*, O5. P.
6. Whorl, buff ware; d. 31 mm. 5028. *IV*, K6. P.
7. Whorl, greenish grey ware; d. 36 mm. 5239. *VI*, K6. P.
8. Whorl, grey ware; d. 31 mm. 5257. *VII*, M8. B.
9. Bobbin, grey ware; l. 58 mm. 5627. *VIII*. P.
10. Bobbin, greenish grey ware; l. 42 mm. 5157. *VI*, O5. P.

11. Bobbin, reddish buff ware; l. 60 mm. 5845. *VIII*, K8. P.
12. Bobbin, buff ware; l. 77 mm. 5599. *VII*, Q6. P.
13. Bobbin, buff ware; l. 80 mm. 5154. *IV*, O6. P.
14. Bobbin, greenish grey ware; l. 75 mm. 5708. *VIII*, K9. P.

Pl. XXXVIII.

- a.
1. Drill, flint; l. 60, w. 11 mm. 5310. *VII*, O9. P.
 2. Blade, flint; l. 42, w. 11 mm. 5461. *VII*, M5. B.
 3. Scraper, flint; l. 83, w. 21 mm. 5497. *VII*, K7. B.
 4. Drill, flint; l. 34, w. 13 mm. 5457. *VII*, O6. B.
 5. Blade, flint; l. 148, w. 23 mm. 5488. *VIII*, R. 801. P.
 6. Blade, flint; l. 76, w. 32 mm. 5760. *VIII*, O10. P.
 7. Blade, flint; l. 77, w. 17 mm. 5872. *VIII-C*, K8. P.
 8. Blade, flint; l. 65, w. 18 mm. 5240. *VI*, K6. B.
 9. Blade, flint; l. 100, w. 22 mm. 5630. *VIII*, O5. P.
 10. Blade, flint; l. 100, w. 23 mm. 5786. *VIII*. P.
 11. Blade, flint; l. 110, w. 20 mm. 5705. *VIII*, R. 830. P.
 12. Arrowhead, flint; l. 30, w. 27 mm. 5959. *VIII-C*, M9. D.
 13. Arrowhead, flint; l. 28, w. 18 mm. 5564. *VII*, K7. P.
 14. Arrowhead, flint; l. 32, w. 21 mm. 5500. *VII*, K7. P.
 15. Arrowhead, flint; l. 43, w. 26 mm. 5557. *VII*, K7. P.
 16. Arrowhead, flint; l. 46, w. 28 mm. 5507. *VII*, K7. D.
 17. Arrowhead, flint; l. 45, w. 28 mm. 5575. *VII*, K7. P.
 18. Arrowhead, flint; l. 52, w. 16 mm. 5385. *VII*, K5. B.
- b.
1. Scraper, obsidian; l. 66, w. 28 mm. 5873. *VIII-C*, K8. P.
 2. Arrowhead, obsidian; l. 62, w. 25 mm. 5371. *VIII*, M8. B.
 3. Arrowhead, obsidian; l. 44, w. 20 mm. 5964. *VIII-C*, M5. P.
 4. Blade, obsidian; l. 61, w. 9 mm. 5928. *VIII-C*, M7. B.
 5. Blade, obsidian; l. 48, w. 8 mm. 6092. *VIII*, M6. B.
 6. Blade, obsidian; l. 24, w. 5 mm. 5797. *VIII*, M8. P.
 7. Blade, obsidian; l. 50, w. 8 mm. 6093. *VIII*, M6. B.
 8. Blade, smokey obsidian; l. 65, w. 14 mm. 5950. *VIII-C*, M9. B.
 9. Blade, obsidian; l. 205, w. 34 mm. 5593. *VIII-A*, R. 812. P.
 10. Blade, smokey obsidian; l. 74, w. 17 mm. 5963. *VIII-C*, M5. P.
 11. Blade, obsidian; l. 92, w. 16 mm. 5766. *VIII*, O7. B.
 12. Blade, obsidian; l. 103, w. 18 mm. 5897. *VIII-C*, O6. B.
 13. Blade, obsidian; l. 99, w. 18 mm. 5876. *VIII-C*, K6. P.
 14. Blade, obsidian; l. 82, w. 17 mm. 5860. *VIII-C*, O6. P.
 15. Blade, obsidian; l. 207, w. 33 mm. 5938. *VIII-C*, M9. B.

Pl. XXXIX.

- a.
1. Celt, diorite; l. 41, w. 41 mm. 5289. *VII*, M6. P.
 2. Celt, basalt; l. 41, w. 28 mm. 5272. *VI*, K6. P.
 3. Celt, jadeite; l. 42, w. 26 mm. 5682. *VIII-A*, R. 812-B. P.
 4. Celt, fine-grained greenish sandstone; l. 39, w. 42 mm. 5653. *VIII*, O5. P.
 5. Celt, diorite; l. 53, w. 39 mm. 5605. *VII*, Q6. D.
 6. Celt, diorite; l. 73, w. 58 mm. 5738. *VIII*, O6. B.
 7. Celt, diorite; l. 46, w. 36 mm. 5634. *VIII*, O5. P.
 8. Celt, diorite; l. 53, w. 37 mm. 5942. *VIII-C*, M10. P.
 9. Celt, diorite; l. 37, w. 32 mm. 5683. *VIII*, K8. B.

10. Celt, diorite; l. 55, w. 36 mm. 5486. *VIII*, K7. B.
11. Celt, very fine-grained basalt; l. 28, w. 29 mm. 5903. *VIII-C*, O6. P.
12. Celt, basalt; l. 75, w. 42 mm. 5829. *VIII*, K8. B.
- b.*
1. Core, flint; l. 140, w. 66 mm. 5937. *VIII-C*, M9. P.
2. Core, obsidian; l. 63, w. 45 mm. 6003. *VIII*. P.
3. Core, flint; l. 115, w. 65 mm. 5484. *VIII*, O8. P.
4. Core, obsidian; l. 177, w. 80 mm. 5347. *VII*. B.

Pl. XL.

- a.*
1. Mace-head, variegated grey and white limestone; h. 52, ds. 59, 31.5 mm. 5635. *VIII-A*, R. 812-B. B.
2. Mace-head, black limestone; h. 58, d. 76 mm. 5835. *VIII*, K7. B.
3. Mace-head, grey limestone; h. 45, d. 58 mm. 5622. *VIII-A*, R. 818. P.
4. Mace-head, grey limestone; h. 36, d. 41 mm. 5492. *VIII*, O5. P.
5. Mace-head, white marble; h. 41, d. 50 mm. 5010. *III*, M6. B.
6. Mace-head, variegated purplish brown and white marble; h. 50, d. 55 mm. 5736. *VIII*, O8. P.
7. Mace-head, black limestone; h. 54, d. 49 mm. 5584. *VIII-A*, R. 812. P.
8. Mace-head, white marble; h. 60, d. 54 mm. 5156. *VI*, M5. B.
9. Mace-head, marble; h. 63, d. 58 mm. 5427. *VI*, surface. B.
10. Mace-head, argillaceous sandstone; h. 80, d. 66 mm. 5145. *VI*, O6. P.
- b.*
1. Hammer, arenaceous limestone; h. 90, d. 60 mm. 5191. *VI*, O5. B.
2. Rubbing stone, weathered basalt; h. 56, d. 53 mm. 5081. *III*, R. 301. B.
3. Rubbing stone, weathered basalt; h. 52, l. 69 mm. 5473. *VIII*, R. 810-B.
4. Rubbing stone, weathered basalt; 45 x 45 x 39 mm. 5057. *IV*, M6. B.
5. Rubbing stone, weathered basalt; h. 54, d. 55 mm. 5098. *V*, M6. B.
6. Hammer, arenaceous limestone; h. 91, d. 64 mm. 5721. *VIII-A*, R. 812-B. P.
7. Maul, granite; h. 96, d. 52 mm. 5836. *VIII*, K7. B.
8. Battle axe, weathered basalt; h. 93, w. 60 mm. 6096. *VIII*, M9. B.
9. Battle axe, weathered basalt; h. 76, w. 50 mm. 5595. *VIII*, M7. B.
10. Battle axe, weathered basalt; h. 101, w. 67 mm. 5783. *VIII*, M9. B.
11. Battle axe, weathered basalt; h. 102, w. 70 mm. 5763. *VIII*, O10. B.

Pl. XLI.

- a.*
1. Whetstone, fine-grained calcareous shale; l. 90, w. 14 mm. 1275. *V*, M7. P.
2. Whetstone, black limestone; l. 60, w. 18 mm. 1262. *V*, K7. P.
3. Whetstone, fine-grained calcareous shale; l. 58, w. 14 mm. 1276. *IV*, M7. P.
4. Whetstone, arenaceous shale; l. 121, w. 45 mm. 1092. *XI-XII*, M12. P.
5. Celt, greenstone; l. 36, w. 38 mm. 6083. *VIII*, Q7. P.
6. Whetstone with celt edge, fine-grained calcareous shale; l. 50, w. 11 mm. 1094. *VIII*, M10. P.
7. Celt, quartz; l. 27, w. 18 mm. 1263. *V*, K7. P.
8. Whetstone, diorite; l. 103, w. 38 mm. 1647. *VI*, R. 644. P.
- b.*
1. Sinew stone, calcareous sandstone; l. 93, w. 43 mm. 5323. *VII*, M9. P.
2. Loom weight, calcareous sandstone; l. 102, w. 53 mm. 5974. *VIII-B*, M10. P.
3. Suspension weight, fine-grained quartz diorite; l. 104, w. 68 mm. 1102. *V*, M9. P.

4. Suspension weight, calcareous sandstone; l. 106, w. 80 mm. 1616. VI, R. 609. P.
5. Suspension weight, micaceous sandstone; l. 144, w. 49 mm. 1297. VI, M8. P.
6. Loom weight, basalt (?) ; l. 97, w. 36 mm. 497. VI, K8. D.

Pl. XLII.

1. Mace-head, variegated red and white marble; h. 54, d. 64 mm. 336. VI, J7. D.
2. Mace-head, variegated red and white marble; h. 57, d. 58 mm. 612. VI? J7. D.
3. Mace-head, white marble; h. 60 mm. 244. VIII, J7. D.
4. Mace-head, fine-grained buff marble; h. 61, d. 78 mm. 1178. VI, M7. P.
5. Adze-hammer, diorite; l. 93, w. 82 mm. 6084. IX, M10. D.
6. Sling pellet, weathered basalt; l. 63, d. 34 mm. 1673. VIII, O8. P.
7. Sling pellet, fine-grained buff marble; l. 55, d. 22 mm. 643. V, K7. D.
8. Knife handle, calcareous sandstone; l. 102, w. 30 mm. 688. VI, J8. D.
9. Sling pellet, weathered basalt; l. 69, d. 39 mm. 5812. VIII, Q7. P.
10. Ballista ball, buff marble; d. 35 mm. 800. Surface. D.
11. Battle axe, black limestone; l. 50, h. 55 mm. 6095. VIII, O6. P.
12. Battle axe, black limestone; l. 77, w. 58 mm. 1199. X-XI, M12. P.
13. Celt, basalt; l. 102, w. 50 mm. 1520. VI, R. 627. P.
14. Celt, basalt; l. 91, w. 73 mm. 1046. XI, M12. P.
15. Weight, basalt; l. 143, w. 97 mm. 5750. VIII, K9. P.

Pl. XLIII.

- a. 1. Duck weight, haematite; d. 21 mm. 5354. VII, M5. P.
 2. Weight, haematite; l. 28, d. 12 mm. 1485. VI, K7. P.
 3. Weight, haematite; l. 26, d. 13 mm. 1339. VI, K7. P.
 4. Weight, haematite; l. 36, d. 13 mm. 1588. VI, R. 641. P.
 5. Weight, black limestone; l. 87, d. 24 mm. 5056. IV, M6. P.
 6. Weight, diorite; l. 56, d. 30 mm. 5941. VIII-C, M9. P.
 7. Weight, black limestone; l. 57, d. 24 mm. 1611. VI, R. 612. P.
 8. Weight, haematite; d. 25 mm. 1469. VI, R. 614. P.
- b. Tablet, diorite; 39 x 26 x 9 mm. 1112. M13. P.

Pl. XLIV.

- a. 1. Paint mortar, red marble; h. 43, d. 68 mm. 1238. V, K8. P.
 2. Palette, black limestone; 110 x 83 x 20 mm. 1295. VI, M8. P.
 3. Paint mortar, grey marble; h. 30, d. 65 mm. 1023. XIII, M12. P.
 4. Paint mortar, diorite; h. 19, d. 47 mm. 1085. XII-XIII, M12. P.
 5. Palette, buff marble; 81 x 65 x 11 mm. 1346. VI, K7. P.
 6. Paint mortar, white limestone; h. 57, d. 85 mm. 1494. VI, K8. P.
- b. 1. Model jar, black slate (?) ; h. 19, d. 27 mm. 5867. VIII-C, K7. P.
2. Thumb cup, grey ware; h. 16, d. 22 mm. 903. VIII-A, R. 804. D.
- c. "Hut symbol," grey marble; h. 145, d. 98 mm. 1073. IX, M11. B.
- d. Bowl, variegated grey and white marble; h. 52, d. 75 mm. 852. C7. D.

Pl. XLV.

- a. Statuette, limestone; h. 250, w. 164 mm. 5027. III, O6. P.
- b. Mortar, limestone, and pestle, diorite (?) ; h. of mortar 196 mm., l. of pestle 235 mm. 6075, 6076. IV. P.

Pl. XLVI.

- a.* Stand, pink marble; h. 90, d. 140 mm. 1604. *VI*, R. 638. P.
- b.* Phallic object, gabbro with quartz grain; l. 120, base 51 x 42 mm. 853. *VIII*, R. 802. D.

Pl. XLVII.

Mould, sandstone, for the casting of eight copper implements, three on one side (A), four on the other (B), and one on its left edge; 300 x 225 x 110 mm. 1505. *VI*, R. 625. P.

Pl. XLVIII.

1. Sickle, copper; l. 265, w. 55 mm. 1396. *VI*, R. 609. P.
2. Sickle, copper; l. 205, w. 53 mm. 5982. *VI*, K7. P.
3. Axe, copper; l. 188, w. 98 mm. 5086. *VI*, R. 657. P.
4. Chisel, copper; l. 61, w. 29.5 mm. 5870. *VI*, K8. P.
5. Awl, copper; l. 121 mm. 5699. *VI*, K9. P.
6. Chisel, copper; l. 60, w. 11 mm. 1583. *VI*, R. 634. P.
7. Needle, copper; l. 118 mm. 5376. *VI*, K6. P.
8. Chisel, copper; l. 145 mm, w. 40 mm. 5234. *VI*, K6. P.
9. Adze, copper; l. 139, w. 52 mm. 5980. *VI*, K7. P.
10. Needle, copper; l. 125 mm. 5044. *IV*, M5. P.
11. Knife, copper; l. 295, w. 45 mm. 1212. *V*, R. 517. P.
12. Needle, copper; l. 120 mm. 1201. *IV*, O7. P.

Pl. XLIX.

1. Knife, copper; l. 328, w. 54 mm. 801. *VI*, R. 649. D.
2. Razor, copper; l. 91, w. 41 mm. 802. *VI*, R. 649. D.
3. Pick-head, copper; l. 62, w. 20 mm. 803. *VI*, R. 649. D.
4. Anklet, copper; ds. 91, 62 mm. 804. *VI*, R. 649. D.
5. Adze, copper; l. 115 mm. 805. *VI*, R. 649. D.

Pl. L.

1. Pin, copper; l. 110 mm. 1214. *V*, R. 521. P.
2. Serpent, copper; l. 193 mm. 1240. *V*, R. 521. P.
3. Tweezers, copper; l. 74, w. 18 mm. 1213. *V*, R. 517. P.
4. Hairpin, copper; l. 135, w. 38 mm. 1374. *VI*, K7. P.
5. Toilet set, copper; l. 78 mm. 1415. *VI*, R. 610. P.
6. Toilet set, copper; l. 45 mm. 5746. *VI*, K6. P.
7. Antlered head, copper; h. 39 mm. 1328. *VI*, K8. P.
8. Pin, copper; l. 107 mm. 1471. *VI*, R. 614. P.
9. Canopy (?) knob, copper filled with bitumen; h. 35, d. 62 mm. 1442. *VI*, R. 612. P.
10. Bracelet, copper; d. 78 mm. 6094. *VI*, K8. P.
11. Pin, copper; l. 72 mm. 5947. *VI*. P.
12. Bracelet, copper; d. 42 mm. 1637. *VI*, R. 643. P.
13. Bracelet, copper; d. 41 mm. 5109. *VI*, O6. P.
14. Serpent, copper; l. 246 mm. 1368. *VI*, M7. P.

Pl. LI.

- a.* Tongs, copper; l. 425 mm. 1641. *VI*, R. 643. P.
- b.* "Frying Pan," copper; l. 225, d. of bowl 112 mm. 1458. *VI*, R. 609. P.

Pl. LII

- a.* Object, bone with turquoise inlay; l. 111, w. 24 mm. 5858. *VIII*, R. 826 P.

- b.*
- 1. Needle, bone; l. 97 mm. 5909. *VI*, well, J7. P.
- 2. Spoon, bone; l. 90, w. 35 mm. 1351. *VI*, M7. P.
- 3. Awl, bone; l. 100 mm. 1123. Prior to *VIII*, M12. P.
- 4. Polishing tool, bone; l. 95, w. 21 mm. 1316. *VI*, M7. P.
- 5. Needle, bone; l. 111 mm. 5934. *VI*, well, J7. P.
- 6. Whorl, bone; h. 16, d. 39 mm. 5610. *VIII*, R. 812. P.
- 7. Whorl, bone; h. 18, d. 44 mm. 5680. *VIII*. P.

Pl. LIII.

- a.*
- 1. String of beads, shell, turquoise, white and black limestone; l. 400 mm. 5987. *VIII*, M10, Grave 11. D.
- 2. String of beads, shell, dark blue obsidian, and amethyst; l. 300 mm. 5918c. *VIII*, O11, Grave 13. P.
- 3. String of beads, shell, black and white limestone, and greenish obsidian; l. 780 mm. 5912b. *VIII*, O11, Grave 13. P.
- 4. String of beads, shell, white and black limestone, carnelian, and turquoise; l. 1280 mm. 5919c. *VIII*, M10, Grave 10. P.
- 5. String of beads, natural shell, smokey obsidian, limestone, carnelian, and turquoise; l. 1840 mm. 5913a. *VIII*, M9. P.
- 6. String of beads, shell, obsidian, and turquoise; l. 700 mm. 5918b. *VIII*, O11, Grave 13. P.
- 7. String of beads, light and dark grey limestone; l. 630 mm. 5601. *VIII*, R. 812. P.
- 8. String of beads, limestone; l. 900 mm. 5742. *VIII*, R. 830. P.
- 9. String of miscellaneous beads; l. 1125 mm. 5920. *VIII*. P.
- b.*
- 1. Double ram's head amulet, marble; w. 40.5 mm. 5305. *VI*, R. 683. P.
- 2. Animal amulet, buff marble; h. 31, l. 38 mm. 5314. *VI*, Khirbeh. P.
- 3. Mother Goddess figurine, white marble; h. 26, w. 20 mm. 5097. *V*, K6. P.
- 4. Inlay, shell, d. 18 mm. 5026 Surface. B.
- 5. Pendant, greyish buff ware; l. 22, w. 21 mm. 5411. *VII*. P.

Pl. LIV.

- a.*
- Mother Goddess figurine, white marble; h. 85, w. 50 mm. 1486. *VI*, K7. P.
- b.*
- 1. Ring, gold; d. 18 mm. 5129. *VI*, O7. P.
- 2. Bead, gold; l. 72 mm. 5039. *IV*, M6. B.
- c.*
- 1. Amulet, rose quartz, l. 30, w. 15 mm. 5585. *VIII*, O6. P.
- 2. Amulet, black stone, h. 10, l. 16 mm. 5952. *VIII-A*, M9. P.
- 3. String of beads, shell and turquoise with turquoise pendant; l. 450 mm. 6081. *VIII*, M10, Grave 12. P.

Pl. LV.

- a.*
- Plaque, ivory; 67 x 46 x 12 mm. 5917. *VIII*, O5. P.
- b.*
- Seal impression, clay; d. 42 mm. 5943. *VIII*, M9. P.

Pls. LVI-LXI. Seals and Seal Impressions, cf. pp. 118 ff.

Pl. LXII.

- 1. Bowl, handmade, buff ware, wet-smoothed, brown paint; h. 24, d. 107 mm. 1110. M13. P.
- 2. Bowl, handmade, brown ware, wet-smoothed, red paint; h. 30, d. 105 mm. 1107. M13. B.

3. Bowl, handmade, buff ware, wet-smoothed, dark brown paint; h. 35, d. 92 mm. 1131. M13. B.
4. Bowl, tournette, greyish buff ware, wet-smoothed, dark brown paint; h. 47, d. 121 mm. 1021. XII? M11. P.
5. Bowl, handmade, red ware, wet-smoothed, red paint; h. 150, d. 295 mm. 6086. IX, J7.
6. Cup, handmade, buff ware, wet-smoothed, red and purplish brown paint; h. 55, d. 85 mm. 1677. XIV, M12. P.
7. Cup, handmade, reddish buff ware, wet-smoothed, reddish brown paint; h. 52, d. 85 mm. 1022. XII? M11. P.
8. Cup, handmade, buff ware, wet-smoothed, red and purplish brown paint; h. 52, d. 78 mm. 1678. XIV, M12. B.
9. Bowl, handmade, grey ware, brown paint; h. 160, d. 292 mm. 1183a. XIII, M12, Grave 1. B.
10. Bowl, handmade, greenish grey ware, wet-smoothed, dark brown paint; h. 132, d. 175 mm. 1020. XII? M11. P.
11. Tumbler, handmade, buff ware, cream slip, dark brown paint; h. 120, d. 72 mm. 1281. XIII, M12. B.
12. Cup, handmade, brown ware, wet-smoothed, red and purplish brown paint; h. 112, d. 133 mm. 1679. XIV, M12. B.
13. Cup, handmade, greenish grey ware, cream slip, dark brown paint; h. 90, d. 104 mm. 1237. XIII, M12. P.
14. Bowl, handmade, light brown ware, cream slip, dark brown paint; h. 90, d. 135 mm. 1002. IX, M10. B.
15. Cup, tournette, buff ware, cream slip, black paint; h. 99, d. 120 mm. 6087. IX, M10. P.
16. Bowl, handmade, brown ware; h. 92, d. 102 mm. 1202. M13. P.
17. Jar, handmade, yellowish brown ware; h. 350, d. 400 mm. 1183. XIII, M12, Grave 1. B.
18. Jar, handmade, greenish grey ware, wet-smoothed, dark brown paint; h. 440, d. 540 mm. 1184. XIII, M12, Grave 2. P.
19. Jar, handmade, greenish grey ware, wet-smoothed, dark brown paint; h. 385, d. 400 mm. 1191. XIII, M12, Grave 4. B.

Pl. LXIII.

20. Bowl, handmade, reddish brown ware; h. 82, d. 195 mm. 6009. VIII-B, M9.
21. Bowl, wheelmade, buff ware, wet-smoothed; h. 45, d. 120 mm. 6010. VIII-C, R. 830.
22. Bowl, wheelmade, brown ware; h. 82, d. 180 mm. 6018. VIII.
23. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 58, ds. 119, 158 mm. 5631. VIII, Q7. P.
24. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 82, d. 225 mm. 6011. VIII-A, O6.
25. Bowl, wheelmade, grey ware, wet-smoothed, incised; h. 27, d. 85 mm. 6012. VIII-A, M7.
26. Bowl, handmade, greenish grey ware; h. 120, d. 282 mm. 6013. VIII-B, O5.
27. Bowl, handmade, greenish grey ware; h. 65, ds. 104, 127 mm. 5807. VIII-A, Q7. P.

28. Pot, wheelmade, buff ware; h. 67, d. 118 mm. 6014. *VIII-A*, R. 834.
29. Pot, handmade, buff ware, burned black; h. 35, d. 60 mm. 5769. *VIII*, O8. P.
30. Bowl, wheelmade, buff ware, wet-smoothed; h. 64, d. 102 mm. 5626. *VIII*, K8. P.
31. Bowl, wheelmade, brown ware, wet-smoothed; h. 60, d. 105 mm. 1541. *VIII-A*, M7. P.
32. Pot, handmade, buff ware; h. 92, d. 112 mm. 6016. *VIII*, O8.
33. Pot, wheelmade, dark grey ware, burnished, incised; h. 106, d. 175 mm. 6017. *VIII-C*, J7.
34. Cup, wheelmade, greenish grey ware, wet-smoothed; h. 85, d. 98 mm. 5751. *VIII-A*, M7. P.
35. Cup, wheelmade, grey ware, wet-smoothed; h. 70, d. 67 mm. 5628. *VIII-B*, O7. P.
36. Cup, wheelmade, buff ware; h. 112, d. 103 mm. 6015. *VIII*, O8.
37. Spouted pot, wheelmade, buff ware; h. 156, d. 193 mm. 5703. *VIII*.
38. Jar, handmade, grey ware; h. 95, d. 90 mm. 5602. *VIII-A*, R. 818. B.
39. Jar, handmade, buff ware; h. 84, d. 99 mm. 5624. *VIII-A*, M7. P.

Pl. LXIV.

40. Jar, wheelmade, light buff ware, wet-smoothed; h. 91, d. 94 mm. 5623. *VIII-A*, R. 812-B. P.
41. Jar, wheelmade, grey ware, wet-smoothed; h. 75, d. 88 mm. 6019. *VIII*, M9.
42. Jar, wheelmade, dark grey ware, cream slip, brown paint; h. 90, d. 96 mm. 5613. *VIII-A*, O7. P.
43. Jar, wheelmade, buff ware, red slip, burnished; h. 155, d. 160 mm. 5588. *VIII*, R. 812. P.
44. Jar, wheelmade, light buff ware, wet-smoothed; h. 138, d. 160 mm. 6020. *VIII-B*, M9.
45. Pot, wheelmade, reddish brown ware; h. 156, d. 180 mm. 5728. *VIII-A*, J7.
46. Jar, wheelmade, buff ware, grey slip; h. 90, d. 100 mm. 6021. *VIII-B*, K8.
47. Jar, handmade, brown ware; h. 73, d. 73 mm. 5956. *VIII-A*, M10. P.
48. Pot, wheelmade, buff ware; h. 90, d. 115 mm. 6022. *VIII-A*, K7.
49. Jar, handmade, greenish grey ware; h. 370, d. 465 mm. 6023. *VIII*, R. 841.
50. Jar, handmade, yellowish brown ware; h. 300, d. 380 mm. 1667. *VIII*.
51. Jar, handmade, buff ware; h. 405, d. 355 mm. 6024. *VIII*, M6.

Pl. LXV.

52. Bowl, wheelmade, buff ware, wet-smoothed; h. 77, d. 190 mm. 6025. *VII*, M6.
53. Bowl, wheelmade, buff ware, wet-smoothed; h. 33, d. 87 mm. 6026. *VII*, O9.
54. Bowl, wheelmade, light green ware, wet-smoothed; h. 47, d. 132 mm. 1669. *VII*, K7.
55. Bowl, wheelmade, nearly vitrified bluish grey ware, brown slip on lower half of body; h. 92, d. 187 mm. 6030. *VII*, M6.
56. Bowl, handmade, red ware; h. 70, d. 232 mm. 1040. *VII*, M11.

- 57. Bowl, handmade, red ware; h. 68, d. 295 mm. 6032. *VII, M9.*
- 58. Chalice, wheelmade, buff ware, cream slip, brown paint; h. 80, d. 69 mm. 1058. *VII, M8.* P.
- 59. Chalice, wheelmade, light red ware, pink slip; h. 81, d. 116 mm. 1668. *VII, K7.*
- 60. Bottle, handmade, brown ware; h. 145, d. 105 mm. 1525. *VII, M8.* P.
- 61. Spouted jar, wheelmade, buff ware, wet-smoothed; h. 100, d. 110 mm. 6031. *VII.*
- 62. Spouted jar, handmade, buff ware, wet-smoothed; h. 93, d. 120 mm. 5253. *VII, M7.* P.
- 63. Spouted jar, wheelmade, nearly vitrified grey ware; h. 187, d. 180 mm. 1042. *VII, M11.* B.
- 64. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 123, d. 93 mm. 1060. *VII, M9.* P.
- 65. Jar, wheelmade, greenish grey ware, wet-smooched; h. 167, d. 100 mm. 6028. *VII.*
- 66. Jar, wheelmade, grey ware; h. 240, d. 215 mm. 5369. *VII, M9.*
- 67. Jar, wheelmade, greenish grey were, incised; h. 150, d. 170 mm. 6027. *VII, O6.*
- 68. Jar, wheelmade, dark bluish grey ware, burnished; h. 205, d. 185 mm. 6029. *VII, O6.*

Pl. LXVI.

- 69. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 126, d. 100 mm. 5399. *VII, M9.*
- 70. Jar, wheelmade, reddish buff ware, wet-smoothed; h. 110, d. 90 mm. 6033. *VII, M5.*
- 71. Jar, wheelmade, buff ware, wet-smoothed; h. 140, d. 115 mm. 1552. *VII, R. 701.* P.
- 72. Jar, wheelmade, buff ware, burnished; h. 76, d. 83 mm. 1080. *VII, M10.* P.
- 73. Jar, wheelmade, dark grey ware, burnished; h. 120, d. 114 mm. 5446. *VII, K7.* P.
- 74. Jar, wheelmade, buff ware, wet-smoothed; h. 115, d. 127 mm. 1544. *VII, M7.* P.
- 75. Jar, wheelmade, buff ware, wet-smoothed, incised potter's mark; h. 112, d. 135 mm. 1623. *VII, R. 704.* P.
- 76. Jar, wheelmade, buff ware, wet-smoothed; h. 96, d. 107 mm. 1551. *VII, O7.* P.
- 77. Jar, wheelmade, grey ware, wet-smoothed; h. 68, d. 72 mm. 5299. *VII, M9.* B.
- 78. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 146, d. 136 mm. 5255. *VII, M7.*
- 79. Jar, wheelmade, red ware, burnished; h. 180, d. 160 mm. 1653. *VII, R. 704.*
- 80. Jar, wheelmade, buff ware, wet-smoothed, incised potter's mark; h. 300, d. 300 mm. 1516. *VII.*
- 81. Jar, wheelmade, nearly vitrified dark grey ware, burnished; h. 215, d. 212 mm. 5324. *VII, O9.*
- 82. Jar, wheelmade, deep buff ware, wet-smoothed; h. 285, d. 255 mm. 6034. *VII, O8.*

83. Jar, wheelmade, greenish grey ware, incised; h. 555, d. 370 mm. 6035.
VII, M6.

Pl. LXVII.

84. Bowl, wheelmade, green ware, wet-smoothed; h. 68, d. 170 mm. 1684.
VI, M9.
85. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 90, d. 190 mm.
 1474. *VI, K8.* P.
86. Bowl, wheelmade, green ware, burnished; h. 77, d. 182 mm. 1096. *VI,*
M9.
87. Bowl, wheelmade, nearly vitrified bluish grey ware, wet-smoothed; h. 50,
 d. 140 mm. 1357. *VI, K7.*
88. Bowl, wheelmade, grey ware, wet-smoothed; h. 38, d. 80 mm. 6036. *VI,*
J8.
89. Bowl, wheelmade, greenish grey ware, vertically burnished; h. 61, d. 148
 mm. 1401. *VI, K7.* P.
90. Bowl, wheelmade, greyish buff ware, wet-smoothed; h. 56, d. 133 mm.
 1230. *VI, K7.* P.
91. Bowl, wheelmade, vitrified buff ware, yellow underslip, red reserved slip;
 h. 72, d. 180 mm. 6037. *VI, K9.*
92. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 80, d. 154 mm.
 5142. *VI, R.* 681. P.
93. Bowl, wheelmade, buff ware, wet-smoothed; h. 59, d. 174 mm. 5318.
VI, Khirbeh. P.
94. Bowl, wheelmade, grey ware; h. 45, d. 140 mm. 1670. *VI, O7.*
95. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 41, d. 146 mm.
 3519. *VI, Khirbeh.* P.
96. Bowl, wheelmade, nearly vitrified dark grey ware, cream reserved slip; h.
 23, d. 75 mm. 5208. *VI, K6.* P.
97. Strainer, wheelmade, greyish buff ware; h. 45, d. 130 mm. 1451. *VI, R.*
 601. P.
98. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 33, d. 85 mm.
 1391. *VI, M7.* P.
99. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 22, d. 88 mm.
 5209. *VI, O6.* P.
100. Strainer, wheelmade, greyish buff ware; h. 43, d. 115 mm. 1292. *VI,*
M8. P.
101. Bowl, wheelmade, nearly vitrified greenish grey ware, wet-smoothed; h. 45,
 d. 132 mm. 6039. *VI, O5.*
102. Bowl, wheelmade, grey ware, wet-smoothed; h. 33, d. 102 mm. 6038.
VI, K6.
103. Bowl, wheelmade, green ware, wet-smoothed; h. 90, d. 280 mm. 1363.
VI, M7.
104. Cup, wheelmade, greenish grey ware, wet-smoothed; h. 80, d. 75 mm.
 6040. *VI, K6.*
105. Cup, wheelmade, grey ware, wet-smoothed; h. 75, d. 61 mm. 900. *VI,*
K7. D.

Pl. LXVIII.

106. Pot, wheelmade, buff ware, wet-smoothed, incised; h. 127, d. 148 mm.
 6041. *VI, M6.*

107. Pot, wheelmade, greenish grey ware, wet-smoothed, incised; h. 101, d. 118 mm. 5700. VI, K9. P.
108. Pot, wheelmade, nearly vitrified bluish grey ware, reddish brown slip; h. 100, d. 107 mm. 6042. VI, K7.
109. Pot, wheelmade, yellowish buff ware, wet-smoothed, incised; h. 115, d. 137 mm. 5639. VI, K7.
110. Pot, wheelmade, green ware, wet-smoothed; h. 53, d. 66 mm. 1421. VI, K8.
111. Pot, wheelmade, dark buff ware, cream reserved slip; h. 71, d. 81 mm. 5141. VI, O5. D.
112. Pot, wheelmade, dark grey ware, red slip; h. 85, d. 105 mm. 6043. VI, K6.
113. Pot, wheelmade, buff ware, yellow underslip, red reserved slip; h. 95, d. 135 mm. 1302. VI, M7.
114. Pot, wheelmade, greenish grey ware, wet-smoothed; h. 91, d. 99 mm. 6044. VI, O9.
115. Pot, wheelmade, buff ware, wet-smoothed, incised; h. 111, d. 125 mm. 1206. VI, O8.
116. Pot, wheelmade, green ware, wet-smoothed; h. 85, d. 105 mm. 1235. VI, K7. P.
117. Pot, wheelmade, buff ware, wet-smoothed; h. 108, d. 125 mm. 1576. VI, M10.
118. Pot, wheelmade, greenish grey ware, wet-smoothed, incised, black paint; h. 130, d. 142 mm. 1461. VI, K8.
119. Pot, wheelmade, green ware, incised; h. 180, d. 185 mm. 1411. VI, K7.
120. Pot, wheelmade, reddish brown ware, wet-smoothed, incised; h. 220, d. 235 mm. 1365. VI, M7.
121. Pot, wheelmade, green ware, wet-smoothed, incised; h. 165, d. 175 mm. 1148. VI, M10. P.

Pl. LXIX.

122. Jar, handmade, brown ware, wet-smoothed; h. 51, d. 34 mm. 1081. VI, M10. P.
123. Jar, wheelmade, deep buff ware, cream slip, stamped; h. 52, d. 64 mm. 1335. VI, M7. P.
124. Jar, handmade, dark grey ware, wet-smoothed; h. 77, d. 100 mm. 1457. VI, R. 618. P.
125. Jar, wheelmade, red ware, wet-smoothed; h. 82, d. 100 mm. 1564. VI, R. 618. P.
126. Jar, handmade, brown ware; h. 71, d. 95 mm. 6045. VI, M5.
127. Jar, wheelmade, grey ware, wet smoothed; h. 75, d. 88 mm. 1580. VI, O10.
128. Jar, handmade, reddish brown ware; h. 82, d. 102 mm. 1632. VI, R. 643. P.
129. Jar, wheelmade, greenish grey ware, incised; h. 77, d. 80 mm. 1463. VI, R. 608.
130. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 99, d. 88 mm. 5143. VI, R. 684. P.
131. Jar, wheelmade, greenish grey ware, wet-smoothed, incised; h. 74, d. 62 mm. 5704. VI, M9. P.

132. Jar, wheelmade, yellowish buff ware, wet-smoothed, incised; h. 120, d. 75 mm. 1425. VI, R. 614. P.
133. Jar, wheelmade, greenish grey ware, wet-smoothed, incised; h. 98, d. 81 mm. 1309. VI, M8. P.
134. Jar, wheelmade, grey ware, wet-smoothed, incised, black paint; h. 155, d. 110 mm. 1334. VI?, K8.
135. Jar, wheelmade, reddish brown ware; h. 220, d. 200 mm. 1579. VI, R. 640. P.
136. Jar, wheelmade, green ware, brown slip; h. 230, d. 150 mm. 1228. VI, K8.
137. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 188, d. 170 mm. 901. VI, K7. D.

Pl. LXX.

138. "Fountain-head" pot, wheelmade, hand-finished, buff ware, wet-smoothed; h. 340, d. 345 mm. VI, K7. B.
139. Jar, wheelmade, brown ware, red slip; h. 300, d. 322 mm. 1499. VI, R. 626.
140. Jar, wheelmade, brown ware, red slip; h. 390, d. 445 mm. 5193. VI, M6.
141. Pot, wheelmade, green ware, wet-smoothed, incised; h. 290, d. 290 mm. 1290. VI, R. 613.
142. Jar, wheelmade, brown ware, wet-smoothed, incised; h. 360, d. 280 mm. 1386. VI, M7.
143. Jar, wheelmade, grey ware, wet-smoothed; h. 330, d. 248 mm. 1496. VI, R. 626.
144. Jar, wheelmade, green ware, incised; h. 385, d. 358 mm. 1500. VI, R. 626.
145. Jar, wheelmade, green ware, incised; h. 505, d. 490 mm. 1650. VI, R. 644.
146. Jar, wheelmade, grey ware, wet-smoothed, incised; h. 440, d. 355 mm. 1283. VI, K8.

Pl. LXXI.

147. Bowl, wheelmade, greenish grey ware; h. 52, d. 85 mm. 6046. V, M6.
148. Bowl, handmade, brown ware, red paint; h. 40, d. 65 mm. 1233. V, K8. P.
149. Bowl, wheelmade, green ware, wet-smoothed, appliqué serpents; h. 62, d. 150 mm. 1270. V, M8.
150. Cup, wheelmade, grey ware, wet-smoothed; h. 90, d. 95 mm. 1195. V, K7.
151. Cup, wheelmade, buff ware, wet-smoothed; h. 85, d. 75 mm. 6047. V, M6.
152. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 90, d. 85 mm. 1273. V, K7. P.
153. Jar, wheelmade, light green ware, wet-smoothed; h. 105, d. 95 mm. 1665. V, K8.
154. Jar, wheelmade, brown ware, horizontally burnished; h. 65, d. 100 mm. 1128. V, K7.
155. Jar, wheelmade, yellowish buff ware, light green slip; h. 105, d. 85 mm. 1059. V, K9.
156. Jar, handmade, brown ware, wet-smoothed; h. 62, d. 62 mm. 1188. V, M8. P.

157. Jar, wheelmade, greenish grey ware, wet-smoothed, black paint; h. 130, d. 140 mm. 1127. *V*, K7.
158. Jar, wheelmade, green ware, wet-smoothed, incised; h. 65, d. 55 mm. 6048. *V*, M7.
159. Cooking pot, handmade, buff ware; h. 228, d. 225 mm. 5094. *V*, R. 516. P.
160. Jar, handmade, green ware; h. 150, d. 158 mm. 1121. *V*, K8.
161. Jar, wheelmade, buff ware, wet-smoothed, incised; h. 260, d. 185 mm. *V*, R. 517.

Pl. LXXII.

162. Cup, wheelmade, grey ware, wet-smoothed, incised; h. 153, d. 182 mm. 5197. *IV*, R. 408. P.
163. Chalice, wheelmade, dark grey ware, wet-smoothed; h. 225, d. 177 mm. 5195. *IV*, R. 408. P.
164. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 75, d. 160 mm. 6049. *IV*, under R. 409.
165. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 60, d. 165 mm. 6050. *IV*, under R. 409.
166. Jar, wheelmade, grey ware, incised; h. 410, d. 315 mm. 6051. *IV*, under R. 409.
167. Jar, wheelmade, grey ware, incised; h. 475, d. 400 mm. 6052. *IV*, under R. 409.
168. Jar, wheelmade, grey ware, incised; h. 404, d. 352 mm. 5078. *IV*, under R. 409.
169. Jar, wheelmade, grey ware, wet-smoothed; h. 314, d. 290 mm. 5095. *IV*, under R. 409.
170. Pot, wheelmade, grey ware, incised; h. 230, d. 235 mm. 5077. *IV*, under R. 409.
171. Pot, wheelmade, greenish grey ware, incised; h. 170, d. 170 mm. 6053. *IV*, under R. 409.
172. Pot, wheelmade, grey ware, wet-smoothed, incised; h. 235, d. 225 mm. 5100. *IV*, under R. 409. B.

Pl. LXXIII.

173. Goblet, wheelmade, greenish grey ware, wet-smoothed; h. 130, d. 85 mm. 6054. *I*, O6.
174. Cup, wheelmade, greenish grey ware, wet-smoothed, brown paint; h. 76, d. 78 mm. 6056. *III*, M5.
175. Bowl, wheelmade, buff ware; h. 42, d. 98 mm. 6057. *III*, M6.
176. Bowl, wheelmade, greenish grey ware; h. 22, d. 45 mm. 5006. *III*, M5. P.
177. Cup, wheelmade, buff ware, wet-smoothed, red paint; h. 86, d. 88 mm. 6055. *III*, M6.
178. Goblet, wheelmade, greenish grey ware, wet-smoothed; h. 121, d. 72 mm. 5804. *I*. P.
179. Bowl, wheelmade, red ware, wet-smoothed; h. 27, d. 93 mm. 5035. *IV*, M5. P.
180. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 62, d. 131 mm. 6059. *IV*, well, J9. B.
181. Footed bowl, wheelmade, green ware, wet-smoothed; h. 65, d. 115 mm. 3.400.

182. Bowl, wheelmade, greenish grey ware, wet-smoothed; h. 30, d. 118 mm. 5093. *IV*, M6. D.
183. Bowl, wheelmade, grey ware, wet-smoothed; h. 136, d. 310 mm. 6060. *IV*, K6.
184. Cup, wheelmade, green ware, wet-smoothed; h. 71, d. 68 mm. 6089. *IV*, K6.
185. Bowl, wheelmade, buff ware, wet-smoothed; h. 60, d. 185 mm. 6058. *IV*, K6.
186. Cup, wheelmade, green ware, wet-smoothed; h. 70, d. 70 mm. 6061. *IV*, O6.
187. Cup, wheelmade, buff ware, wet-smoothed; h. 85, d. 70 mm. 1196. *IV*, K7. P.
188. Jar, handmade, grey ware; h. 38, d. 33 mm. 5041. *IV*, M6. P.
189. Jar, wheelmade, grey ware; h. 68, d. 92 mm. 6062. *IV*, M6.
190. Cup, wheelmade, buff ware, wet-smoothed; h. 102, d. 70 mm. 1134. *IV*, M7. P.
191. Jar, wheelmade, grey ware; h. 265, d. 248 mm. 5138. *IV*, M6.
192. Jar, wheelmade, greenish grey ware, wet-smoothed; h. 88, d. 90 mm. *IV*, M6.
193. Pot, wheelmade, buff ware, wet-smoothed; h. 114, d. 125 mm. 6064. *IV*, M6.
194. Jar, wheelmade, grey ware, wet-smoothed, brown paint; h. 220, d. 185 mm. 6065. *IV*, O6.

Pl. LXXIV.

195. Pot stand, wheelmade, red ware, base hand-fashioned, wet-smoothed; h. 41, d. 76 mm. 5281. *VII*, M8. P.
196. Pot stand, wheelmade, greenish grey ware; h. 82, d. 240 mm. 1065. *VI*, M9.
197. Pot stand, wheelmade, light green ware, wet-smoothed; h. 81, d. 175 mm. 1242. *V*, K7.
198. Pot stand, wheelmade, buff ware; h. 110, d. 130 mm. 1431. *VI*, M7.
199. Pot stand, wheelmade, green ware; h. 260, d. 350 mm. 1388. *V*, M7.
200. Cult object, handmade, greenish grey ware; h. 148, d. 120 mm. 1664. *V*, O8.
201. Lamp, handmade, greenish grey ware; h. 26, d. 86 mm. 5088. *IV*, under R. 409. P.
202. Cult object, handmade, grey ware; h. 151, d. 201 mm. 5616. *VI*, O6. P.
203. Cult object, handmade, red ware; h. 118, d. 210 mm. 5617. *VI*, O6. P.
204. Cult object, handmade, grey ware, burnished; h. 690, d. 143 mm. 5849. *VII*, O5. B.
205. Incense burner, handmade, grey ware; h. 320, d. 200 mm. 5180. *IV*, R. 409. B.

Pl. LXXV.

206. Lid, wheelmade, green ware, incised; h. 79, d. 170 mm. 1530. *VI*, R. 601.
207. Stopper, handmade, greenish grey ware; h. 30 mm. 5338. *VII*, O7. B.
208. Lid, wheelmade, reddish buff ware, wet-smoothed; h. 60, d. 205 mm. 1466. *VI*, K8.
209. Top of censer? handmade, buff ware, wet-smoothed; h. 29, d. 85 mm. 5013. *III*, M6. P.

EXCAVATIONS AT TEPE GAWRA

210. Pottery cone, handmade, grey ware, reddish brown slip, red paint; l. 64 mm. 5001. Surface. P.
211. Ladle, handmade, red ware; h. 180, d. 115 mm. 5650. VIII, Q7. P.
212. Basket, handmade, buff ware; h. 72, d. 225 mm. 5065. IV, R. 409. B.
213. Vessel, handmade, grey ware; h. 102, w. 109 mm. 5149. VI, M6. P.
214. Ladle, handmade, buff ware, wet-smoothed; h. 45, d. 105 mm. 1527. VII, M8. P.
215. Offering tray, handmade, brown ware; 88 x 45 x 30 mm. 1574. VI, R. 640. P.
216. Receptacle, handmade, grey ware, wet-smoothed, incised; h. 63, d. 93 mm. 5706. VIII, O5. P.
217. Compartment tray, handmade, grey ware; l. 450, w. 175 mm. 6066. VIII.
218. Cult object, handmade, greenish grey ware, wet-smoothed, incised; h. 175, d. 390 mm. 6091. VI, O6.
219. Compartment tray, handmade, brown ware; 108 x 45 x 40 mm. 1130. V, K7. P.

Pl. LXXVI.

1. Anthropomorphic vessel, handmade, buff ware, incised, appliquéd; h. 103, d. 112 mm. 1493. VI, K8. P.
2. Potsherd with double spout, grey ware, red slip. 375. VII. D.
3. Handle, grey ware; l. 128, w. 60 mm. 5034. II. B.
4. Potsherd with horizontally pierced handles, green ware. 1682. VI. P.
5. Potsherd with cable moulded ledge handle, red ware. 6067. VII, O9. B.
6. Potsherd, deep buff ware, incised. 1683. VI. P.
7. Potsherd, buff ware, wet-smoothed, incised, appliquéd. 5401. VII, K7. B.
8. Potsherd, greenish grey ware, incised, brown paint. 6068. VII, J7. B.
9. Potsherd, buff ware, cream slip, dark brown paint. 6090. VII, K6. P.
10. Potsherd, greenish grey ware, wet-smoothed, reddish brown paint. 6069. VII, O7. B.
11. Potsherd, greenish grey ware, appliquéd. 1205. VII. P.
12. Potsherd, greenish grey ware, incised, appliquéd. 1671. V, K7. B.
13. Potsherd, greenish grey ware, incised, appliquéd. 1672. IV, O7. B.
14. Potsherd, greenish grey ware, light and dark brown paint. 6070. IV, O6.
15. Model jar, black slate (?); h. 19, d. 27 mm. 5867. VIII-C, K7. P.
16. Cup, marble; h. 110, d. 120 mm. 5087. V, M5. B.
17. Offering stand, weathered basalt; h. 305, d. 360 mm. 850. VIII, R. 802. D.
18. Bowl, basalt; h. 65, d. 114 mm. 5381. VIII, M8. B.
19. Mortar, weathered basalt; h. 72, d. 226 mm. 851. VIII. B.
20. Jar, limestone breccia in calcite; h. 194, d. 120 mm. 5458. VIII, O7. P.

Pl. LXXVII.

1. Horse figurine, greenish grey ware; h. 37, l. 71 mm. 5237. VI, K6. B.
2. Horse figurine, buff ware; h. 34, l. 65 mm. 5121. VI, M6. B.
3. Ram figurine, buff ware; h. 42, l. 46 mm. 5365. VIII, M7. B.
4. Dog figurine, grey ware; h. 65, l. 88 mm. 5210. VI, K6. B.
5. Bull figurine, greenish grey ware, reddish brown paint; h. 75, l. 87 mm. 5033. IV, O6. P.
6. Human figurine, greyish buff ware; h. 53, w. 58 mm. 5320. VII, M6. B.
7. Animal head from vessel, greenish grey ware, orange slip, brown paint; l. 65 mm. 5350. VII, O9. B.

8. Head of bull figurine, grey ware; h. 55, w. 57 mm. 5781. *VIII*, O6. B.
9. Sheep figurine, brown ware; h. 40, l. 53 mm. 5878. *VIII-C*, M5. P.
10. Hindquarters of sheep figurine, reddish brown ware; h. 187, l. 132 mm. 5352. *VII*, K8. B.

Pl. LXXVIII.

1. Chariot, greenish grey ware; h. 80, w. 51 mm. 5043. *IV*, M6. B.
2. Chariot, greenish grey ware; l. 90, w. 87 mm. 5780. *VIII*, J8. P.
3. Chariot, greenish grey ware; 72 x 37 x 32 mm. 5615. *VIII*, O5. B.
4. Drum, dark grey ware; d. 40 mm. 5014. *III*, M6. P.
5. Wheel, red ware, incised; d. 82 mm. 6000. *V*, M6. B.
6. Wheel, greenish grey ware; d. 81 mm. 5011. *III*, M6. B.
7. Wheel, greenish grey ware, incised; d. 82 mm. 5999. *V*, M6.
8. Wheel, greenish grey ware; d. 56 mm. 5012. *III*, M6. P.
9. Whorl, grey ware; d. 31 mm. 5257. *VII*, M8. B.
10. Whorl, greenish grey ware; d. 36 mm. 5239. *VI*, K6. P.
11. Whorl, buff ware; d. 33 mm. 5853. *VIII*, J7. B.
12. Whorl, grey ware; d. 35 mm. 5294. *VII*, M6. P.
13. Whorl, buff ware; d. 39 mm. 5079. *III*, R. 311. B.
14. Whorl, buff ware; d. 31 mm. 5028. *IV*, K6. P.

Pl. LXXIX.

1. Bobbin, greenish grey ware; l. 70 mm. 1428. *VI*, M7. P.
2. Bobbin, greenish grey ware; l. 66 mm. 1631. *VI*, R. 609. P.
3. Bobbin, red ware; l. 75 mm. 1404. *VI*, R. 618. B.
4. Bobbin, buff ware; l. 70 mm. 1269. *III*, R. 304. B.
5. Bobbin, reddish buff ware; l. 60 mm. 5845. *VIII*, K8. P.
6. Bobbin, buff ware; l. 49 mm. 6088. *IV*, O6.
7. Bobbin, buff ware; l. 66 mm. 1084. *VIII*, M10. P.
8. Bobbin, buff ware; l. 80 mm. 5154. *IV*, O6. P.
9. Bobbin, buff ware; l. 70 mm. 1407. *VI*, R. 618. B.
10. Sling pellet, brown ware; l. 56 mm. 1008. R. 810. P.
11. Bobbin, buff ware; l. 75 mm. 1119. *VIII*, M9. B.
12. Bobbin, greenish grey ware; l. 42 mm. 5157. *VI*, O5. P.
13. Bobbin, grey ware; l. 58 mm. 5627. *VIII*. P.
14. Bobbin, buff ware; l. 70 mm. 5090. *V*, O5. P.
15. Bobbin, greyish buff ware; l. 69 mm. 5074. *VI*, M5. P.

Pl. LXXX.

1. Spool, brown ware; l. 50, w. 63 mm. 5774. *VIII*, O8. B.
2. Spool, greenish grey ware; l. 37, d. 23 mm. 6001. Surface.
3. Horns, brown ware; h. 170, d. of base 117 mm. 5168. *VI*, M5. B.
4. Object, greyish brown ware; h. 113, w. 155 mm. 5679. *VIII*, O5. B.
5. Hemiovoid, grey ware; 97 x 34 x 32 mm. 5101. *V*, O6. B.
6. Model axe, grey ware; l. 58 mm. 5133. *V*, M6. P.

Pl. LXXXI.

1. Arrowhead, obsidian; l. 62, w. 25 mm. 5371. *VIII*, M8. B.
2. Arrowhead, flint; l. 52, w. 16 mm. 5385. *VII*, K5. B.
3. Drill, flint; l. 60, w. 11 mm. 5310. *VII*, O9. P.
4. Drill, flint; l. 34, w. 13 mm. 5457. *VII*, O6. B.
5. Scraper, obsidian; l. 66, w. 28 mm. 5873. *VIII-C*, K8. P.

6. Scraper, flint; l. 83, w. 21 mm. 5497. *VII*, K7. B.
7. Blade, flint; l. 100, w. 24 mm. 5193. *VI*, M5. P.
8. Blade, flint; l. 60, w. 10 mm. 6098. *VIII*. P.
9. Blade, chalcedony; l. 86, w. 33 mm. 5901. *VIII*, M9. P.
10. Blade, obsidian; l. 205, w. 34 mm. 5593. *VIII*, R. 812. P.
11. Blade, obsidian; l. 82, w. 17 mm. 5860. *VIII-C*, O6. P.

Pl. LXXXII.

1. Chisel, copper; l. 120 mm. 5733. *VI*, J7. B.
2. Chisel, copper; l. 100 mm. 5059. *IV*, M6. P.
3. Hafted chisel, copper and bone; l. 89 mm., d. of handle 21 mm. 1497. *VI*, R. 626. P.
4. Awl, copper, l. 91 mm. 5348. *VII*, O9. B.
5. Chisel, copper; l. 77 mm. 5339. *VI*. B.
6. Scalpel, copper; l. 33 mm. 5064. *IV*, M5. B.
7. Cotter pin, copper; l. 37 mm. 6082. *IV*. P.
8. Hook, copper wire; l. 42 mm. 5111. *IV*, R. 404. P.
9. Cotter pin, copper; l. 28 mm. 1176. *VI*, M7. P.
10. Hook, copper; l. 93 mm. 5337. *VII*, O7. B.
11. Hook, copper; l. 29 mm. 1306. *VI*, M6. P.
12. Pin, copper with lapis head; l. 88 mm. 5779. *VIII*, R. 803. B.
13. Pin, copper; l. 61 mm. 5066. *V*, M5. B.
14. Nail, copper; l. 33 mm. 5107. *VI*, O5. P.
15. Pin, ivory; l. 111 mm. 5698. *VIII*, K9. B.
16. Pin, copper; l. 117 mm. 5303. *VII*, M9. P.
17. Kohl stick, copper; l. 170 mm. 5236. *VI*, K6. B.
18. Ferrule, copper; l. 107 mm. 5051. *IV*, R. 409. D.
19. Object, copper; l. 61 mm. 5273. *VI*, K6. P.
20. Object, copper; l. 81 mm. 5953. *VI*, M9. B.
21. Arrowhead, copper; l. 85 mm. 1173. *III*, M7. P.
22. Anklet, copper; d. 71 mm. 5173. *VI*, O5. P.
23. Hair ring, copper; h. 27, d. 28 mm. 5225. *VI*, K6. B.
24. Hair ring, copper; d. 18 mm. 5211. *VI*, K6. P.
25. Object, bone; l. 52 mm. 5212. *VI*, K7. B.
26. Weight, haematite with copper ring; h. 49 mm. 5214. *VI*, K6. B.
27. Hindquarters of animal figurine, copper; l. 30 mm. 1326. *VI*, M7. P.
28. Ornament, copper; d. 28 mm. 5889. *VIII*, O10. B.
29. Adze socket, copper; l. 70 mm. 1460. *VI*, R. 609. P.

Pl. LXXXIII.

1. Bead, grey limestone; l. 29 mm. 1180. *XII-XIII*, M12. P.
2. Bead, black limestone; l. 33 mm. 1025. *VIII*, M9. P.
3. Bead, bone; l. 31 mm. 5651. *VIII*, R. 812-B. P.
4. Bead, turquoise; l. 14 mm. 1106. *VIII*, M10. P.
5. Bead, grey limestone; l. 52 mm. 5582. *VIII*, K7. B.
6. Bead, shell; l. 14 mm. 5778. *VIII*, O6. P.
7. Bead, steatite; l. 15 mm. 1106. *VIII*, M10. P.
8. Bead, carnelian; d. 8.5 mm. 5772. *VIII*, O5. P.
9. Bead, carnelian; d. 7.5 mm. 5772. *VIII*, O5. P.
10. Bead, carnelian; d. 8 mm. 5772. *VIII*, O5. P.
11. Bead, carnelian; l. 8.5 mm. 5772. *VIII*, O5. P.

12. Bead, bluish limestone; l. 25.5 mm. 5586. VII, O7. P.
13. Bead, agate; l. 21 mm. 5621. VII. P.
14. Bead, grey limestone; d. 20.5 mm. 5621. VII. P.
15. Bead, white limestone; d. 10 mm. 5621. VII. P.
16. Bead, lapis; l. 16 mm. 5621. VII. P.
17. Bead, grey limestone; l. 17 mm. 1472. VI, R. 614. P.
18. Bead, blue faience; l. 31 mm. 1472. VI, R. 614. P.
19. Bead, glazed steatite; l. 20 mm. 1506. VI, R. 625. P.
20. Bead, blue faience; l. 7.5 mm. 1472. VI, R. 614. P.
21. Bead, bluish limestone; l. 10.5 mm. 5345. VI, M9. P.
22. Bead, agate; l. 10 mm. 1207. VI, K8. P.
23. Bead, white limestone; d. 10 mm. 1106. VI, M10. P.
24. Bead, white limestone; d. 9 mm. 1106. VI, M10. P.
25. Bead, carnelian; l. 26 mm. 5116. VI, M8. B.
26. Bead, green and purple faience; d. 15.5 mm. 1106. VI, M10. P.
27. Bead, lapis; l. 12 mm. 1503. VI, R. 626. P.
28. Bead, bluish limestone; l. 23 mm. 5322. VI, Khirbeh. P.
29. Bead, grey limestone; l. 27 mm. 1232. V, K8. P.
30. Bead, blue faience; d. 19 mm. 5002. I, O6. B.
31. Bead, agate; l. 32.5 mm. 5002. I, O6. B.

Pl. LXXXIV.

1. Pendant, rose quartz; l. 23.5, w. 16 mm. 5674. VIII, K5. B.
2. Pendant, grey limestone; l. 22, w. 17 mm. 1193. XII-XIII, M12. P.
3. Pendant, black limestone; l. 14, d. 10 mm. 5756. VIII. B.
4. Pendant, limestone; l. 15, w. 9 mm. 5771. VIII, O8. D.
5. Pendant, grey limestone; l. 27, w. 20 mm. 5992. VIII, K11. P.
6. Pendant, bluish limestone; l. 16, w. 13 mm. 5758. VIII, O8. B.
7. Pendant, lapis; l. 24, w. 15 mm. 5291. VI, O7. P.
8. Pendant, grey limestone; l. 19, d. 6.5 mm. 5278. VI, K6. P.
9. Pendant, white limestone; l. 24, w. 20 mm. 1674. VI. P.
10. Pendant, serpentine; l. 18, w. 12 mm. 1675. VI. P.
11. Pendant, rose quartz; l. 13, w. 8 mm. 1207. VI, K8. P.
12. Pendant, grey limestone; l. 16, d. 12.5 mm. 1106. VI, M10. P.
13. Pendant, natural shell; l. 19, w. 14 mm. 5024. III, M5. P.
14. Pendant, natural shell; l. 17, d. 9 mm. 5008. III, O6. B.
15. Pendant, serpentine; l. 24, w. 24 mm. 5063. IV, O6. P.
16. Pendant, argillaceous sandstone; l. 24.5, w. 13 mm. 1063. VIII, M10. P.
17. Amulet, black limestone; h. 10, l. 16 mm. 5952. VIII, M9. P.
18. Amulet, rose quartz; h. 18, l. 30 mm. 5585. VIII, O6. P.
19. Amulet, white marble; h. 25, l. 32 mm. 1106. VI, M10. P.
20. Amulet, steatite; h. 14, l. 25 mm. 5940. VI, M9. B.
21. Pendant, white marble; l. 26, w. 20 mm. 5037. IV, R. 410. B.
22. Pendant, gold; l. 29, d. 19 mm. 5869. VIII, M10, Grave 10. B.
23. Ornament, gold filled with bitumen; l. 16, w. 9 mm. 5931. VIII, O11, Grave 13. B.
24. Ornament, gold filled with bitumen; l. 18, w. 13 mm. 5925. VIII, M10, Grave 12. B.
25. Bead, gold; l. 72, d. 8.5 mm. 5039. IV, M6. B.
26. Ring, gold; h. 14, d. 18 mm. 5129. VI, O7. P.

Pl. LXXXV.

1. Ring, shell; d. 22 mm. 5332. *VII*, O7. D.
2. Ornament, blue faience; d. 22.5 mm. 1676. *VI*, R. 626. P.
3. Ornament, serpentine; l. 17.5, d. 12.5 mm. 1484. *VII*, K7. P.
4. Pin head, red marble; d. 23 mm. 1394. *VI*, M7. P.
5. Button, limestone; h. 9, d. 24 mm. 1318. *VI*, M7. P.
6. Ornament, white marble; l. 37 mm. 1109. *XI*, M12. P.
7. Button, bluish limestone; h. 12, d. 23 mm. 5069. *V*, M5. D.
8. Weight? basalt; l. 25, w. 12 mm. 6085. *I*, surface. P.
9. Ornament, shell; 60 x 54 mm. 1028. *VIII*, M11. P.
10. Gaming piece, variegated grey and white marble; h. 6, d. 22 mm. 1589. *VI*, R. 641. P.
11. Stud, buff ware; l. 19, d. 13 mm. 5460. *VII*, M5. B.
12. Bead, blue faience; l. 54, w. 19.5 mm. 1533. *VI*, R. 601. P.
13. Stud, black limestone; l. 14, d. 9 mm. 5132. *V*, O5. B.

ABBREVIATIONS

- AAA.*: *Annals of Archaeology and Anthropology*, Liverpool.
- AASOR.*: *Annual of the American Schools of Oriental Research*, New Haven, and Philadelphia.
- AfO.*: *Archiv für Orientforschung*, Berlin.
- AJA.*: *American Journal of Archaeology*, Concord, N. H.
- Alishar*: Publications of the Oriental Institute of the University of Chicago, *Researches in Anatolia, The Alishar Hüyük*, Chicago.
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- ASP.*: Frankfort, Henri, *Archeology and the Sumerian Problem*, Chicago, 1932.
- BASOR.*: *Bulletin of the American Schools of Oriental Research*, South Hadley, Mass., and Philadelphia.
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- DEP.*: *Mémoires de la Mission archéologique de Perse*, Paris.
- Ghassûl*: Mallon, A., Koeppel, R., and Neuville, R., *Teleilat Ghassûl*, Rome, 1934.
- His.*: Schmidt, E. F., "Tepe Hissar Excavations, 1931," *Museum Journal* XXIII, 323 ff., Philadelphia, 1933.
- ILN.*: *Illustrated London News*, London.
- JAOS.*: *Journal of the American Oriental Society*, New Haven.
- JN.*: Mackay, Ernest, "Report on Excavations at Jemdet Nasr, Iraq." *Anthropology Memoirs* of the Field Museum of Natural History, I. 3, Chicago, 1931.
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- RA.*: *Revue d'Assyriologie et d'archéologie Orientale*, Paris.
- Sum. Pal.*: Mackay, Ernest, "A Sumerian Palace and the 'A' Cemetery at Kish, Mesopotamia," *Anthropology Memoirs* of the Field Museum of Natural History, I. 2, Chicago, 1926-29.
- Telloh*: *Fouilles de Telloh*, ed. de Genouillac, H., Paris, 1934.
- UC.*: Woolley, C. L., *Ur Excavations*, vol. II: *The Royal Cemetery*, London, 1934.
- UVB.*: "Vorläufiger Bericht über die in Uruk unternommenen Ausgrabungen," *Abb. d. Pr. Akad. d. Wiss., phil.-hist. Klasse*, Berlin.

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INDEX

- Ablution bowl, 28, 34, 44, 147.
 ablution chamber, 15, 33.
 acropolis, Str. *VIII*, 18, 30, 34, 185.
 Adad, 130.
 adzes, copper, 104 ff., 108, 114, 166.
 adze-hammer of stone, 88.
 Aegean figurines, 138; parallels, 173, 175.
 Agade, period of, 4.
 agate beads, 134 f.
 agriculture, 185.
 Ahlatibel, 159, 175.
 Akkadian, building at Tell Asmar, 164; dialect, 188 f.; period, 127, 148, 171; cf. Sargonid.
 Akkadians, 165, 172.
 alabaster, vessels, 98; seals, 126, 132, 165.
 Albright, W. F., 149, 159.
 Alishar, 149, 164.
 altar, 14, 26.
 aluminum, 102.
 Amadiyeh, 17.
 Amar-Sin, 150.
 American Schools of Oriental Research, 3, 7.
 amethyst beads, 134, 142.
 amulets, 83, 99, 119, 133, 135 ff.
 analysis of copper objects, 101 f.
 Anatolia, 159, 161, 164, 172, 175, 185, 188.
 Andrae, W., 26, 100, 146, 165.
 animal, amulets, 135 ff., 173; style on seals, 169 f., figurines of copper, 111 f., 115; of terracotta, 66 ff.
 animals, on seals, 122 ff.; sacrificial, 33.
 anklets of copper, 110 f., 114.
 annealing, 104.
 antelopes, 121, 124, 126 ff.
 anthropomorphic representations, on podia, 29, 31; on vessels, 56, 159.
 antimony, 102.
 appliqué decoration on pottery, 46; cf. serpents—moulded.
 Arabs, 1, 184, 186, 188.
 arch, 29; true, 36, 148, 184.
 architecture, 9, 11 ff.; foreign relations of, 146 ff.
 Arne, T. J., 157.
 Arpachiya, 151, 158, 173 ff., 178, 184.
 arrowheads, of flint and obsidian, 84 f.; of copper, 107, 114.
 arsenic, 102.
 Ashur, 146 f., 149 f., 158 ff., 166, 175 f., 179, 182, 184 f., 189.
 asses, 69, 72.
 Assyria, 2 ff., 146, 187; building methods of, 25; weight system of, 92.
 Assyrian, buildings at Nineveh, 181; settlements, 3 f.
 Assyrians, 165.
 awls, of bone, 116; of copper, 108, 114.
 axe-head, pottery model of, 77.
 axes, of copper, 104 ff., 114; of stone, 87 f.
 Babel, 188.
 Babylon, 177.
 Babylonia, 119, 146; weight system of, 92.
 Bache, C., 7 f., 19, 23, 26, 28 f., 59, 67, 100, 134, 142, 146 f., 152, 184.
 balance plates of copper, 113, 115.
 ballista ball, 89.
 Baluchistan, 156.
 band-slip, see reserved slip.
 barb motive on terracotta bobbins, 79.
 basalt, 86, 88, 92 f., 96 ff., 139.
 Bashiqa, village of, 1 ff., 188.
 basket of pottery, 58 ff.
 batter mortar, 35.
 Bau, 129.
 bazaar, 35.
 Bazhwān, sect of, 184, 188.
 beads, 9, 21, 101, 105, 133 ff.; of bone, 116.
 Beck, H. C., 136.
 Beidler, P., 7 f., 24 ff., 36.
 Belaiew, N. T., 92, 94 ff., 165.
 bell-shaped, cups, 41, 43; figurines, 64, 98.
 Berry, R. M., 101.
 Billa, 7 ff., 47, 57, 59, 61, 70, 72, 100, 106 f., 109 f., 137 f., 145 f., 149, 151, 153 ff., 160, 166 f., 176, 179 ff., 175, 184.
 Billa ware, 153 ff., 180 f., 185, 188.
 bird design, on seals, 122 f., 156, 170; on "fountain-head" pot, 51.

- bird-man, 129.
 bison, 128.
 Bittel, K., 149, 151, 159, 173.
 bitumen, coating, 30, 32; cores, 112, 115, 182; used for repairing pottery, 56; for water-proofing, 33.
 blade-axes, 104, 108, 114.
 blades of flint and obsidian, 84 f.
 boar, repr. on seals, 73, 123, 125.
 boat, repr. on seal, 126.
 bobbins, 78 ff., 164.
 bodkins of bone, 116.
 bonding, in Str. *VIII-A*, 30, 36; transverse, 24.
 bone, beads, 135; objects, 89, 116 f.; seals, 125 f., 132.
 bones, human, 16, 140 ff., 182.
 bottles, 47.
 bracelets, 110 f., 114; on terracotta statuette, 66.
 braziers, 96 f.
 breccia, 97.
 bricks, baked, 15; sun-dried, size of, 20, 24, 36.
 broad-room, 25, 27, 36, 146.
 bronze, 101, 183.
 bucranium design, 124.
 building materials, 17.
 bull, terracotta figurine of, 73; repr. on seals, 123 ff., 128, 131.
 burials, 9, 28, 39, 101, 118, 134, 136, 140 ff.; sacrificial, 25, 142 f.
 Burkitt, M. C., 88.
 burnishing of pottery, 46, 51.
 buttons, 139.
 button seals, 119.

 Calah, 1.
 calcite jar, 97.
 canoe-shaped battle axe, 88.
 canopy (?) knobs, 112 f., 115, 182.
 Cappadocia, 189.
 Cappadocian seals, 119, 130.
 Carchemish, 151.
 carination, 40 ff.
 carnelian beads, 134 f., 141 ff.
 casting of copper, 104, 113.
 Caucasus, 110, 167, 175.
 cella, 14, 17, 24, 60.
 celts, 85 f., 89.
 censer, see incense burner.
 Central Europe, 167, 175.
 Central Shrine, 25, 27 f., 30 f., 33 ff., 148.

 cephalic indices, 143.
 ceremonial vessels, 15, 18; cf. 60.
 chalcedony, beads, 134; blade, 85.
 Chalcolithic age, 4, 6, 10, 16, 22 f., 83, 104 f., 147, 150, 162 ff., 168, 178 ff.
 chalices, 41 f., 45, 47, 50; painted, 47; re-used, 60.
 chariots, see "covered wagon," vehicles.
 checker-board pattern, 40, 151.
 Chenchi, 2.
 chevrons, 40.
 Chiera, E., 6; W., 6.
 Childe, V. G., 70, 105, 151, 153, 156, 181.
 chisels, 101, 104, 107, 114.
 Christian, V., 163, 170.
 circlet motive on seals, 127, 172.
 circumcision, 99, 165, 187.
 citadel, Str. *VI*, 21.
 classification of objects, method of, 9.
 collared sockets, 105 f., 166.
 column, cylindrical, Str. *VIII*, 33.
 comb of ivory, 117.
 comb pattern, 38, 45 f., 51, 55.
 cones of pottery, 81.
 Contenau, G., 170.
 cooking pot, 18, 58.
 Copper age, 3 f., 7, 10, 16, 19, 22, 75, 83, 86, 104, 116, 149, 159, 163, 167, 174, 178, 180, 183, 185.
 copper alloys, 101 f., 111.
 copper inlay (?), 113.
 copper objects, 21, 101 ff., 166, 175.
 copper serpents, 111 f., 115, 137.
 copper tools, 116.
 cores, of bitumen, 112, 115, 182; of flint and obsidian, 84.
 corridor, 33.
 corrugated ware, 43, 45, 47.
 cotter pins of copper, 109.
 couches of terracotta, 21, 63, 77.
 court, 14, 16, 20, 33, 36.
 "covered wagon," 75, 77, 163, 175.
 crenelation, 24, 26, 35; use of term, 24.
 crescent motive on seals, 127.
 Crete, 138, 161, 174.
 Cross, D., 7, 38, 143.
 cross-hatched designs, 41, 43, 45, 57.
 cult chamber, 14 f., 17 f., 28, 31, 97, 147.
 cult objects, 49, 56, 58, 68, 158, 175.
 cult place of minor deity, 16.
 curtain wall, Str. *VIII*, 32.
 Cyclades, 138, 161, 173 f., 185.

- cylinder seals, 21, 105, 108, 116, 118, 126 ff., 168, 170 ff., 179, 188.
 cyma reversa curve, 29.
 Cyprus, Cypriote, 130, 162, 173, 175.
- daggers, 106, 114.
 Damghan, 155.
 dancing girls, 132.
 Danubian area, 110.
 dating of the Gawra strata, 177 ff.
 Davis, H., 8.
 Dead Sea, 149, 159.
 deities, repr. on seals, 126 ff.
 Detweiler, A. H., 7.
 devil worship, 188.
 diamond pattern, 40.
 diorite, 88, 90, 92, 96, 99, 121, 125, 127 ff.
 dog, amulet, 137; repr. on seals, 121, 124 f.; terracotta figurines of, 68 f., 72 f.
 Dohuk, 17.
 doorless chambers, 31, 34.
 doorway, with lintel bricks in position, 29; blocked, 30 f.
 double-axe, amulet, 139; pattern, 39.
 double-ram amulet, 136 f.
 dowel holes, 65, 73.
 drains, 13 f., 20.
 drainage holes in pottery, 44.
 draught animals, models of, 68 f.
 drill work on seals, 122, 126.
 drills, 84.
 Dropsie College, 3, 7, 121, 128.
 ducks moulded on "fountain head" pot, 55.
 Dur Sharrukin, 2 f.
- Ea, 129, 172.
 Early Dynastic period, 64, 70, 75, 96, 102, 107, 162, 166, 171 ff., 177, 179, 181, 183.
 earrings, 111, 115.
 ear-scoop, 111.
 Eastern Temple, Str. VIII, 22, 24, 28, 31 f., 73, 97, 110, 147, 162, 165, 178.
 Ebeling, E., 165.
 Egypt, animal art of, 170; dynasties of, 25; glyptic style of, 130, 173; weight system of, 95.
 Elam, 4, 178; glyptic style of, 169; weight system of, 92, 95.
 Engberg, R. M., 149.
 Engidu, 128.
- Enlil, 129.
 Entemena, 172.
 equines, 68 ff.
 erotic motive on seals, 124.
 Eshnunna, 82, 164.
 Eski Mosul, 1.
 ethnic background of the Gawra occupations, 185 f.
 Evans, A., 173.
- Fadhiliyah, Fudhliya, 2 ff.
 Fara, 153, 171.
 faience, 135, 138 f.
 ferrules, 109, 114.
 fertility idols, 64.
 figurines, of animals, 66 ff., 111 f., 115, 135 ff., 173; human, 63 ff., 98; of mother goddess, 65, 99, 136, 138, 173, 175.
 fishes, repr. on seals, 127, 129.
 flint, 16, 21, 84 f., 107.
 foot, amulets, 121; seal, 136.
 foreign relations of Gawra, 75, 145 ff.
 "fountain head" pot, 51, 55, 68.
 Frankfort, H., 5, 110, 127, 148, 151, 153, 156, 167, 172, 177, 181, 187.
 "frying pan," 109, 115, 167.
- gabbro, 99.
 gaming die, 82, 164.
 gaming pieces, 82, 93.
 gates, Str. VI, 20.
 Gawra, Early, 83, 151, 178, 183, 189; Middle, 83, 178, 183, 187, 189; Late, 64, 83, 178, 183, 189.
 gazelle, of terracotta, 72; repr. on seals, 72, 122, 124, 131 f.
 Gelb, I. J., 189.
 geometric designs, on pottery, 45; on seals, 127 f., 131 f., 171 f.
 de Genouillac, H., 63, 70.
 Ghassul, 149, 159 f., 175.
 Gilgamesh, 128; cf. hunter-hero.
 goat, painted on pottery, 45.
 goat-bird, 129.
 goats, terracotta models of, 73; repr. on seals, 122, 124, 126, 128.
 gold, beads of, 134; objects of, 101; ornaments of, 133; pendants of, 136, 141 f.; ring of, 111.
 Goldberg, R., 8.
 Gordon, C., 7.
 Götze, A., 153.
 Greece, 161.

greenstone, 86.
 Guggenheim Memorial Foundation, 3.
 Gunn, B., 130.

haematite, weights of, 90, 92, 94.
 hairpins, spatulate, 110, 114, 167, 175.
 hair rings, 111.
 Hall, H. R., 165.
 Hamites, 165.
 hammering of copper, 104.
 hammers, 87 f.
 Hammurabi, period of, 163.
 handles, on pottery, 50, 54 ff., 59, 154;
 pierced, 54, 59, 154.
 hearth, 21.
 hedgehog, 72, 164, 175.
 hemiovoids, 82.
 Hemmy, A. S., 92.
 heraldic designs, on seals, 172.
 herringbone designs, 41, 44 f., 51, 53, 58,
 116, 158.
 Herzfeld, E., 119, 125, 168 f., 171, 178.
 Hilzheimer, M., 70.
 Highland Zone, 1.
 hind, 121, 123.
 Hittite glyptic family, 169.
 Hogarth, D. G., 120.
 holdfasts, 109, 114.
 hooks, 108 f., 114.
 horned cap, 129.
 horns, 63, 73, 162.
 horse, terracotta models of, 68 ff., 162.
 household objects, 83, 104.
 human figures, painted, 45; repr. on seals,
 121, 124 ff.
 human figurines, 63 ff., 98; cf. anthropomorphic representations.
 human remains, see bones, burials.
 hunter-hero, repr. on seals, 126 ff., 131 f.
 Hurrian, period, 186; pottery, 61, 160 f.
 Hurrians, 160 f., 182 f.
 "hut symbol," 99 f., 165.
 Hyksos, 157.

ibex, repr. on seals, 121 ff.
 idols, fertility cult of, 64; cf. mother goddess figurines.
 incense burners, 15, 58, 60 f.
 incised decoration, on amulets, 137; on
 beads, 135; on pendants, 136; on pottery, 46, 51, 56, 58, 154; on terracotta objects, 64, 66, 75 ff.

India, 185.
 Indus valley, 82; cf. Mohenjo-daro.

Innin Temple of Karaindash, 148, 175.
 intrados, 36.
 Iran, 185.
 Iranian centers, 175.
 Iraq Museum, 121 ff.
 iron, 102.
 Ishtar, 129.
 Ishtar Temple in Ashur, 147, 175.
 Isin-Larsa period, 177.
 ivory, 116 f.; plaques of, 122 ff.

Jalili, Ismail Beg, 6; S., 6.
 "Japhethites," 188.
 Jebel el-Arak, 170.
 Jemdet Nasr., 49, 51, 70, 147, 153 f.,
 158 f., 171, 175, 177, 180 ff.
 Jordan, J., 31, 148, 187.

Karaindash, 148, 175.
 Kassite, 148.
 Khafaje, 70, 72, 119, 138, 171, 173.
 Khirbeh, 18.
 Khirbet Kerak, 159.
 kiln, in Str. VIII, 34.
 "King of Battle," 172.
 Kirkuk, 4, 15.
 Kish, 70, 162, 167, 171 f., 175, 179.
 Kish hero, 128.
 knives, 106, 114.
 knuckle bones, 33.
 kohl stick, 111, 115.
 Koschaker, P., 119.
 Kurdistan, 1.
 Kurds, 184, 188.

ladles, 44, 49.
 lamp, 15, 59 f.
 lapis, 110, 134.
 Layard, A. H., 3, 6.
 lead, 101 f.
 Legrain, L., 62, 131, 172.
 level, variations in, Str. VIII, 32.
 Lewy, H. S., 7.
 lids, pottery, 56.
 limestone, 88, 90, 96 f., 126, 129 f.,
 134 ff., 141 ff.
 lintel bricks, 29.
 lions, repr. on seals, 73, 124 f., 127 ff.
 liwān, 1, 24 f., 27 f., 33 ff., 148, 184.
 long-room, 25, 27, 146.
 loom-weights, 94.
 Lowland, cultural influence of, 1.
 mace-heads, 86 f., 165.

- Mackay, E., 70, 75, 78, 162, 173.
 Magannubba, 2.
 Mallon, A., 149.
 Mallowan, M. E. L., 119, 152 ff., 168 f., 174, 181.
 Manishtusu, 181.
 marble, 121, 125, 129, 132; figurines, 65, 138, 173; pendants, 136 ff.; seals, 126, 128 ff., 132.
 Mari, 172, 187.
 marked weights, 90 f.
 Martiny, G., 146.
 merchants, Gawra VI, 185 f.
 metal work, 185; cf. copper.
 metallurgy, 84, 167.
 mina, 92 f.
 Mintzker, B., 8.
 models, of terracotta, 62 ff.
 Mohenjo-daro, 75, 78, 82, 92, 94 ff., 108, 113, 139, 163 ff., 167, 173, 175.
 Moore, J. P., 121.
 Moortgat, A., 119.
 mortars, 97.
 mosaic, pavement, 35; bricks, 80 f.
 Mosul, 1 ff., 186, 188.
 mother goddess, figurines of, 65, 99, 136, 138, 173, 175.
 mother-of-pearl, 143.
 mouflon, 122, 125.
 moulds, for casting copper objects, 104 f., 107; of terracotta, 81.
 mules, 70, 72.
 Muller, B., 26.
 Müller, V., 25, 64, 149, 173.
 nails, of copper, 108 f., 114; of pottery, 81.
 needles, 80, 108, 114, 116.
 Neolithic period, 88, 104, 164, 178, 183 f.
 newel wall, 31.
 Newell, E. T., 118.
 New Quarter, Str. VIII, 36 f.
 niches, 14, 17, 24 ff., 34 f., 147 f., 184.
 nickel, 102.
 Nimrud, 1.
 Nineveh, 119, 145, 151 ff., 168 f., 173 ff., 178, 180 f., 186.
 Ninurta, 129.
 Northern Shrine, 25, 28, 31 ff.
 North Syrian parallels, 151, 163.
 Nuzi, 6, 91, 95, 163.
 Nebi Yunus, 1.
 Obeid, 151 f., 158, 165, 170, 177 f., 183.
 obsidian, 16, 21, 84 f., 107; beads of, 134, 141 f.; pendant of, 136, 141.
 offering tray, 56.
 Old Quarter, Str. VIII, 36.
 onager, 72, 162.
 Opitz, D., 66.
 orientation, of corners, 13, 24, 146.
 ornaments, 9, 138 f.; of copper, 109, 116; of gold, 111, 133 ff., 141 f.; of stone, 83.
 von der Osten, H. H., 118.
 ovens, 13, 21, 30.
 painted decoration, on pottery, 38 ff., 45, 50, 58; on terracotta objects, 64 f., 67, 73, 81.
 Painted Pottery period, 38, 150.
 paint mortars, 96.
 paint-stick, 111.
 Palestine, 185.
 palettes, 96.
 Parrot, A., 172, 187.
 paste, seal of, 131 f.
 pavement, 20 f., 30, 35.
 pendants, 133, 135 f.
 Pennsylvania University, 7, 10; Museum of, 7, 121 ff.
 Persian period, 4.
 Petrie, F., 95. —————
 phallic object, 99, 165.
 phallic shape in pottery cult object, 49.
 phosphorus, 102.
 pick-head, 106, 114.
 pike-head, 104, 107, 166.
 pins, 101 f., 109 f., 114, 116.
 plant motive, 46; cf. trees.
 plaques, 122 ff., 170.
 plaster, 17, 24, 29, 31 ff., 36.
 platform, see podium.
 pleated skirt, 129 f.
 Plenderleith, H. J., 102.
 podium, 14 ff., 24, 26, 28, 31, 60.
 polishers, 87.
 polychrome decoration, 39.
 pot stand(?), 81.
 potter's marks, 46, 48, 158.
 pottery, 9, 15, 19, 21, 38 ff., 104, 140 f., 150 ff.; beads of, 136.
 pottery smoothers, 81, 116.
 Predynastic period, 159, 171.
 Procopé-Walter A., 82.
 Przeworski, S., 153, 163, 167, 178.
 quartz, 94, 99, 136, 143.

- ram, terracotta figurine of, 67.
 ramp, 31, 34.
 ram's head amulet, 136; spouts, 51, 55, 68.
 Ras Shamra, 161.
 razors, 97, 107, 114, 175.
 Red Temple, Uruk, 146.
 religious significance, of ceremonial pottery, 15, 60; of terracotta models, 66, 73.
 religious tradition, 17, 27, 32, 37.
 reserved slip ware, 50 f., 159, 175.
 ribbing technique, 41 f., 47, 58, 153, 160.
 Rickard, T. A., 101.
 rims, beveled, 43, 52; collared, 44, 46, 49, 53 f.; everted, 43 f., 46, 48, 51, 54; grooved, 43, 47 f., 52, 54, 153; incurved, 52; ledge, 59, 153; overhanging, 48, 52; rolled, 44, 46, 48, 51, 53, 55, 59; tubular, 55.
 "Ringbündel," 100; see hut symbol.
 rings, 134.
 rock crystal, 134.
 Rockefeller Foundation, 7.
 roofs, 15, 18.
 rubbing stones, 87 f.
- Saarisalo, A., 7.
 Sajur, 163.
 Sakje Gözü, 151.
 Samarra, 151, 178.
 sandstone, 104, 136.
 Sargon, of Agade, 172; art of, 131.
 Sargon II of Assyria, 3.
 Sargonid, pottery, 160; period, 100, 131, 164, 166, 171, 172, 177, 179, 182 f.; seal from Nineveh, 181.
 scalpel, 113.
 scaraboid, 82.
 Schmidt, E. F., 156.
 scorpion, moulded on pottery, 46, 68.
 scrapers, 84, 116.
 script, marks on bobbins reminiscent of, 79 f.
 seals, 9, 21, 82 f., 118 ff., 168 ff., 175.
 seal-cutter, 73, 185.
 seal impression, 9, 80, 118 ff., 122 ff.
 Seleucia, 119.
 Semites, 165, 188 f.
 serpents, moulded on pottery, 46, 51, 56 f., 68, 98, 175; of copper, 111 f., 115, 137; repr. on seals, 122 ff.
 serpentine, 128 f., 130, 132, 136, 138.
 shaft-hole implements, 87; see socketed.
- Shahi-Tump, 156.
 Shebbek, 184, 188.
 sheep, repr. on seals, 129; terracotta figurines of, 67, 73.
 shekel, 90, 92 ff.
 shell, beads, 134, 141 ff.; caps from Mohenjo-daro, 113; inlay, 139, 175; pendant, 136; rings, 138.
 Shipton, G. M., 149.
 Shushinak Temple, 164.
 sickles, 107, 114.
 silver, 101 f.
 Sin, 129.
 sinew stone, 94.
 Sinjar mountains, 1.
sissiktu, 119.
 skeletons, loose, 143.
 skeuomorphic ornamentation, 75 f.
 slate, 98.
 sling pellets, 80, 87, 89.
 slips, buff, 50; cream, 40, 47, 50 f., 158; green, 50, 57; grey, 41, 43 f.; pink, 47; red, 41, 43, 48, 50 f.; secondary, 51; yellow, 51; see reserved slip.
 snake anklet, 111, 114.
 socketed objects, 104 f.
 spears, 106 f., 114, 175; inscribed, from Billa, 166.
 spindle whorls, 78.
 spirals, in reserved slip ware, 51.
 spools, 78 ff.
 spouted vessels, 44, 47.
 spouts, 41, 49, 158.
 spread-eagles, 126, 128, 132.
 spring line of vault, 36.
 squares, on contour map, 9.
 square of township, Str. VIII, 36.
 stair, 31.
 stamps, 81, 163, 175.
 stamp seals, 21, 116, 118 ff., 168 ff.
 stand, of marble, 99.
 statuette, 65 ff.
 steatite, 23 ff., 127, 131 f., 135, 137.
 steps, 15, 28 ff., 33.
 stippling, 40.
 Stone age, 83, 178.
 stone, construction, 14, 17; floors of, 15 f.; industries, 185; objects of, 9, 83 ff., 104, 164 ff.; vessels of, 96 ff.
 stopper, of pottery, 49.
 storage jars, 44, 49 f., 59 f.
 storage rooms, 16, 32, 35.
 strainers, 51 f., 60.
 Stratum I, architecture of, 12.

- Stratum *II*, architecture of, 13.
- Stratum *III*, architecture of, 13; copper objects fr., 114; date of, 182 f.; pendants fr., 136 f.; pottery of, 61; seal fr., 131; stone objects fr., 84, 98; terracottas fr., 67, 74, 76 ff.
- Stratum *IV*, architecture of, 14 ff., 149 f.; copper objects fr., 107, 109, 113 ff.; date of, 182 f.; pendants fr., 136; pottery of, 58, 160; stone objects fr., 84 f., 90 f., 95 f., 98; terracottas fr., 73 f.
- Stratum *V*, architecture of, 16 ff., 149 f.; copper objects fr., 109 ff.; date of, 182 f.; pottery of, 56, 160; seals fr., 131; stone objects fr., 84, 86, 88 f., 92 ff.; terracottas fr., 72, 77, 164, 175.
- Stratum *VI*, amulets fr., 137 f., 174; architecture of, 18 ff., 149, 175; bone objects fr., 116 f.; copper objects fr., 80, 83, 102 ff., 166 f.; date of, 179 f.; ethnic background of, 188; ornaments fr., 138 f.; pendants fr., 136; pottery of, 49 ff., 158 f.; seals fr., 120, 126 ff., 171 ff.; silver objects fr., 101; stone objects fr., 84 ff., 90 ff., 165; terracottas fr., 63 ff., 68 ff., 73, 75 ff., 162 f.
- Stratum *VII*, architecture of, 21 f.; beads fr., 135; bone objects fr., 116; copper objects fr., 104, 106, 111 f., 114 f.; date of, 180 f.; ethnic background of, 188; ornaments fr., 138 f.; pottery of, 44 ff., 147, 153 ff.; seals fr., 120 ff., 126 f., 168 ff.; stone objects fr., 84 f., 87, 92 ff.; terracottas fr., 68, 76, 78, 82.
- Stratum *VIII*, amulets fr., 137; architecture of, 22 ff., 146 ff., 174 f.; beads fr., 134 ff., 173; bone objects fr., 116 f.; burials of, 141 ff.; copper objects fr., 102 ff., 107 f., 110, 112, 114 f.; date of, 182 f.; ethnic background of, 187; gold objects fr., 101, 136 f., 141 f.; ornaments fr., 138 f.; pendants fr., 136; pottery of, 41 ff., 152 ff.; seals fr., 73, 80, 120, 122 ff., 168 f.; stone objects fr., 84 ff., 92 ff.; terracottas fr., 67 ff., 74 ff., 78 ff., 162.
- streets, 20, 34 f.
- studs, 139.
- SU-weight, 95, 165.
- sulphur, 102.
- Sumer, 4, 185, 187; copper objects fr., 102, 106, 166 f.; seals fr., 119 f., 132, 170 ff.
- Sumerian, literature, 100; period, 4, 25; glyptic art, 170; metallurgy, 167; ruler, 172; statuettes, 65; sites, 70; weights, 92.
- Sumerians, 188; problem of their priority in Mesopotamia, 187.
- sun god, 130, 172.
- Susa, 73, 164; copper objects fr., 166; toys fr., 164.
- Susa I, 5.
- Susa II, 156.
- suspension holes, in pottery, 43; in celts, 86; in copper blades, 108.
- suspension pots, 43, 54, 154.
- suspension weights, 90, 93.
- Syria, 185, 188.
- Syrian Christians, 188.
- tablet, prehistoric, 99.
- Teheran, 155.
- Tell Asmar, 119, 148, 165, 171, 175.
- Tell Halaf, 151, 178.
- Telloh, 70, 119, 151 f., 165 f., 170 f., 187.
- Tepe Giyan, 169.
- Tepe Hissar, 155 f.
- terrace, 12, 17 ff., 33.
- terracotta, objects, 9, 62 ff., 104, 161 f.; seals, 122, 124 f.
- Terracotta age, 63.
- Teshup, 130.
- textile arts, 78, 185.
- Third Dynasty of Ur, 182 f.
- tholoi, 148.
- Thompson, R. C., 72.
- tin, 101 f.
- Tobler, J., 8.
- toilet articles, 109, 115.
- toilet sets, 111, 115, 167.
- tongs, 109, 114.
- tongue relief, 65.
- torsade, 128.
- turquoise, beads, 134 f., 141 f.; inlay, 117.
- tower, 20.
- town planning, 2, 20, 22, 32.
- toys, 62 f., 67, 112.
- trade routes, 185.
- Transcasplia, 163, 185.
- Transcaucasia, 75, 163.
- trees, repr. on seals, 122 f., 135, 128 f.
- tripod bases, 39, 56.
- Turkish dialects, 1.
- Turkomans, 1, 188.
- tweezers, 111, 115.

INDEX

- Ul, 75, 163.
 Ur, 70, 72, 102, 119, 131 f., 145, 151 f.,
 158 f., 165 ff., 171, 175; copper ob-
 jects fr., 102, 106 f., 110; excavations
 at, 5.
 Uruk, 119, 145 ff., 151 f., 169, 175;
 period, 147, 158, 177, 172 ff.
- Van Buren, E. D., 62, 77, 119, 129.
 vase-headed pins, 109 f., 115, 175.
 vault, 23, 36 f., 148.
 vehicles, 63, 73 ff.; see "covered wagon."
 vestibule, 28 f., 33.
 vitrified ware, 46, 48, 50, 52 f., 158.
- wall knobs, 40.
 wall-bench, 15, 28, 36, 176.
 Warka, 6; see Uruk.
 Warren, M. R., 8.
- water conduit, 15, 32.
 weights, 89 ff., 113, 165, 175.
 weight systems, 90, 94 ff., 165.
 well, 18 ff., 32.
 Western Temple, Str. *VIII*, 25 ff., 30, 34,
 142, 147.
 wheeled animals, 63, 68 f.
 wheels, 63, 75 f.
 whetstones, 87 ff.
 White Temple, Uruk, 146, 148, 175.
 whorls, see spindle whorls.
 Wilenski, E., 6.
 windows, 24, 27, 29, 148, 184.
 Woolley, C. L., 70, 107, 166.
- Yezidis, 184, 188.
- zinc, 102.
 Zu-bird, 129, 172.

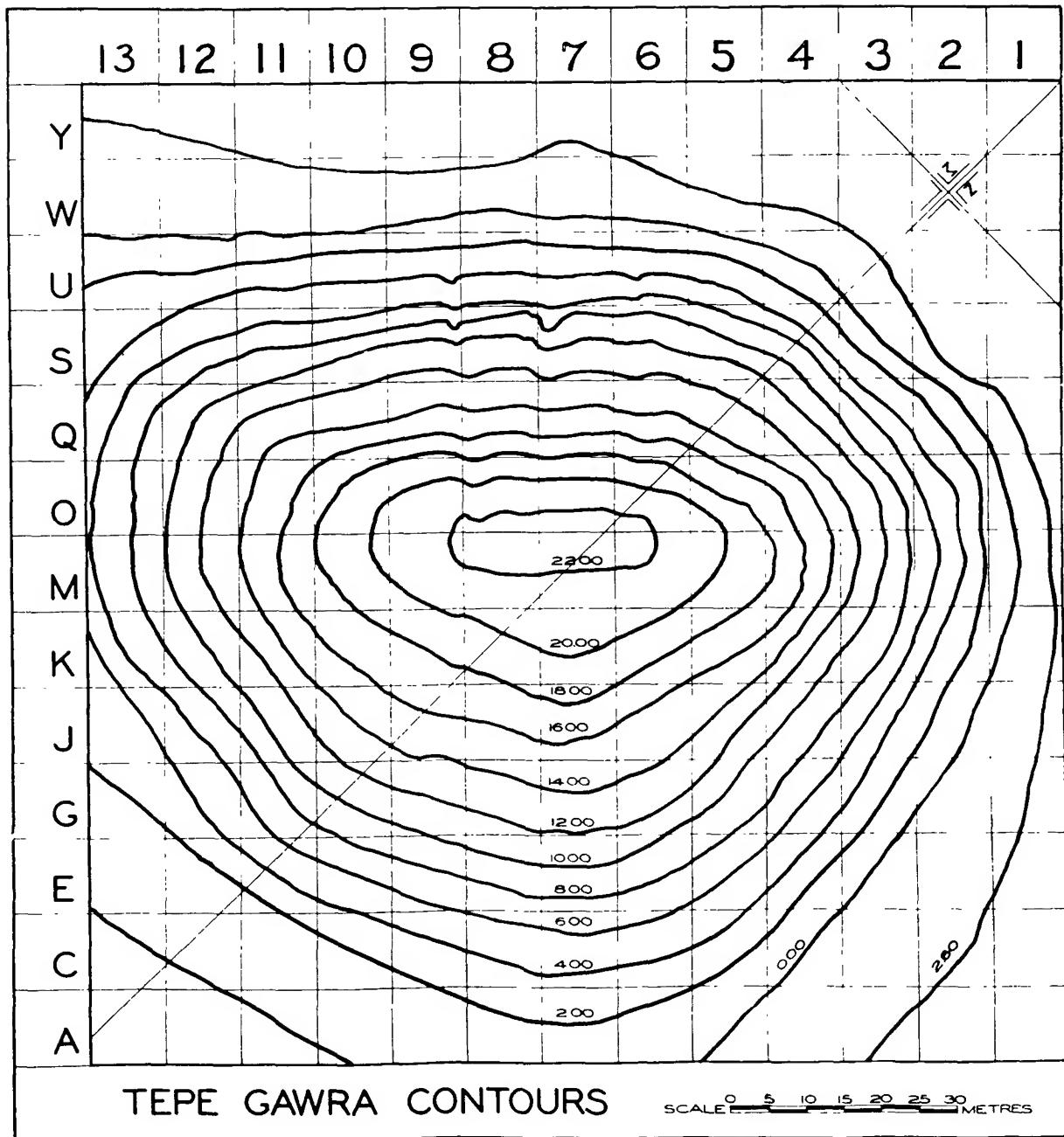


PLATE I

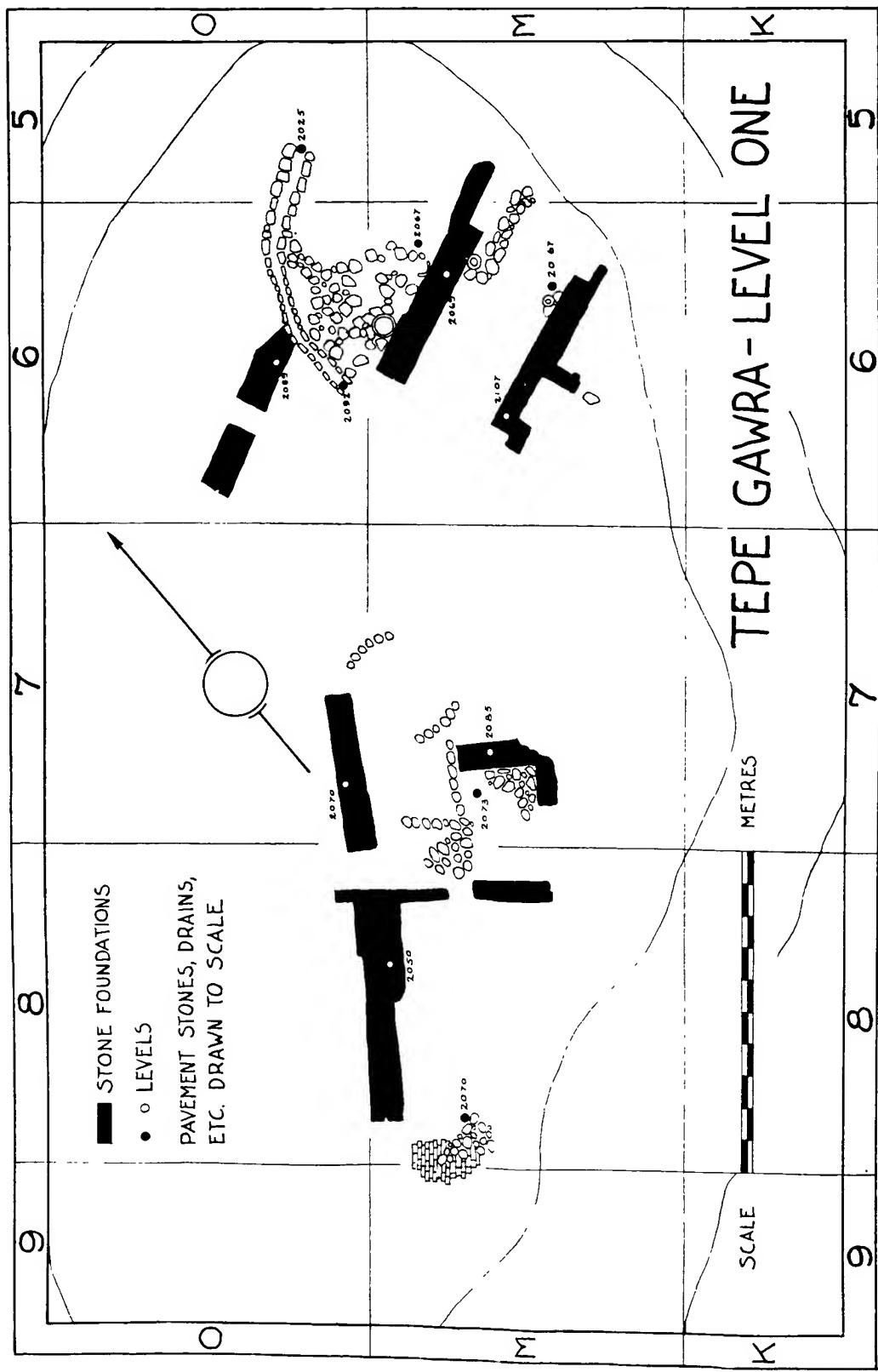


PLATE II

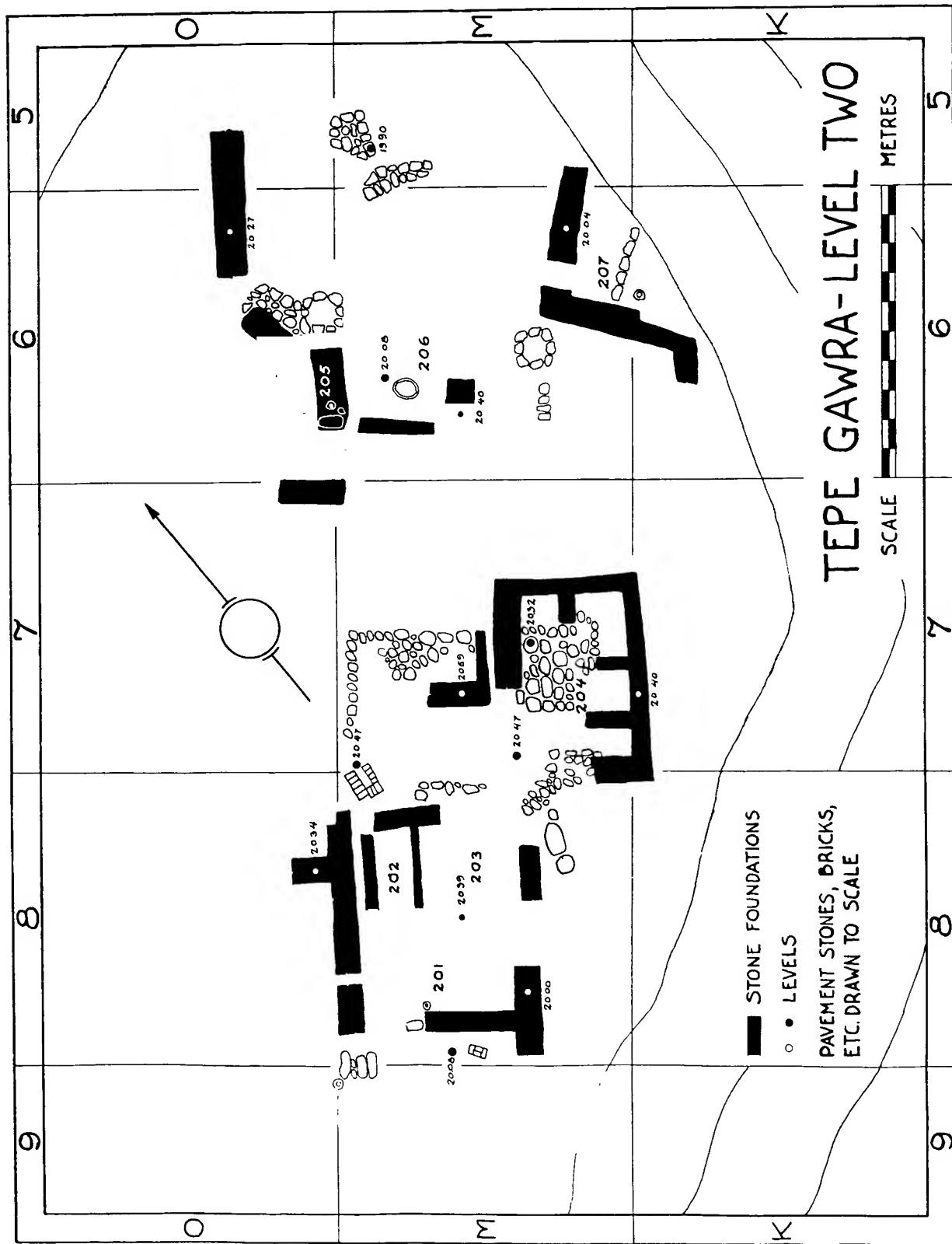


PLATE III

TEPE GAWRA - LEVEL THREE

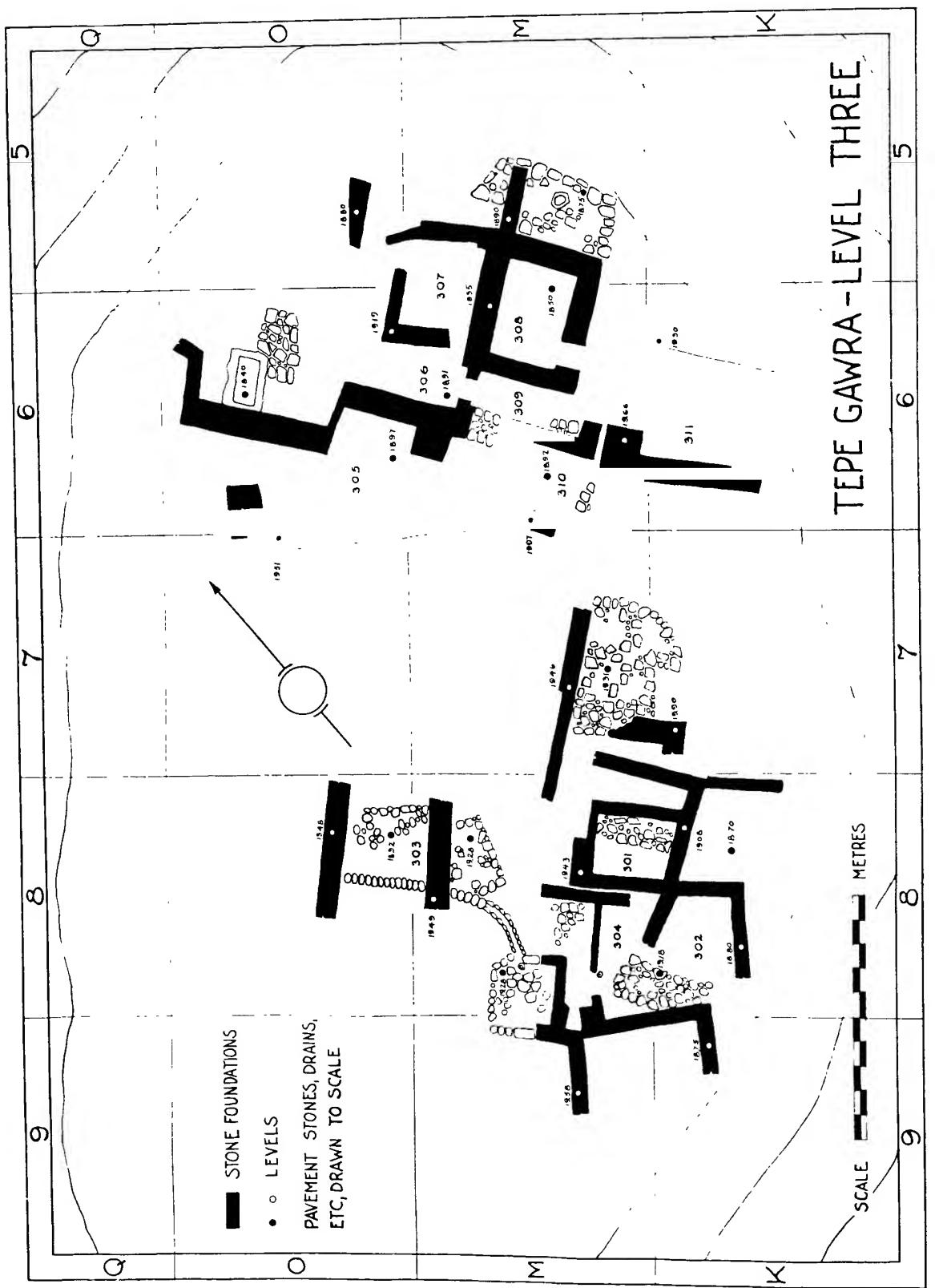


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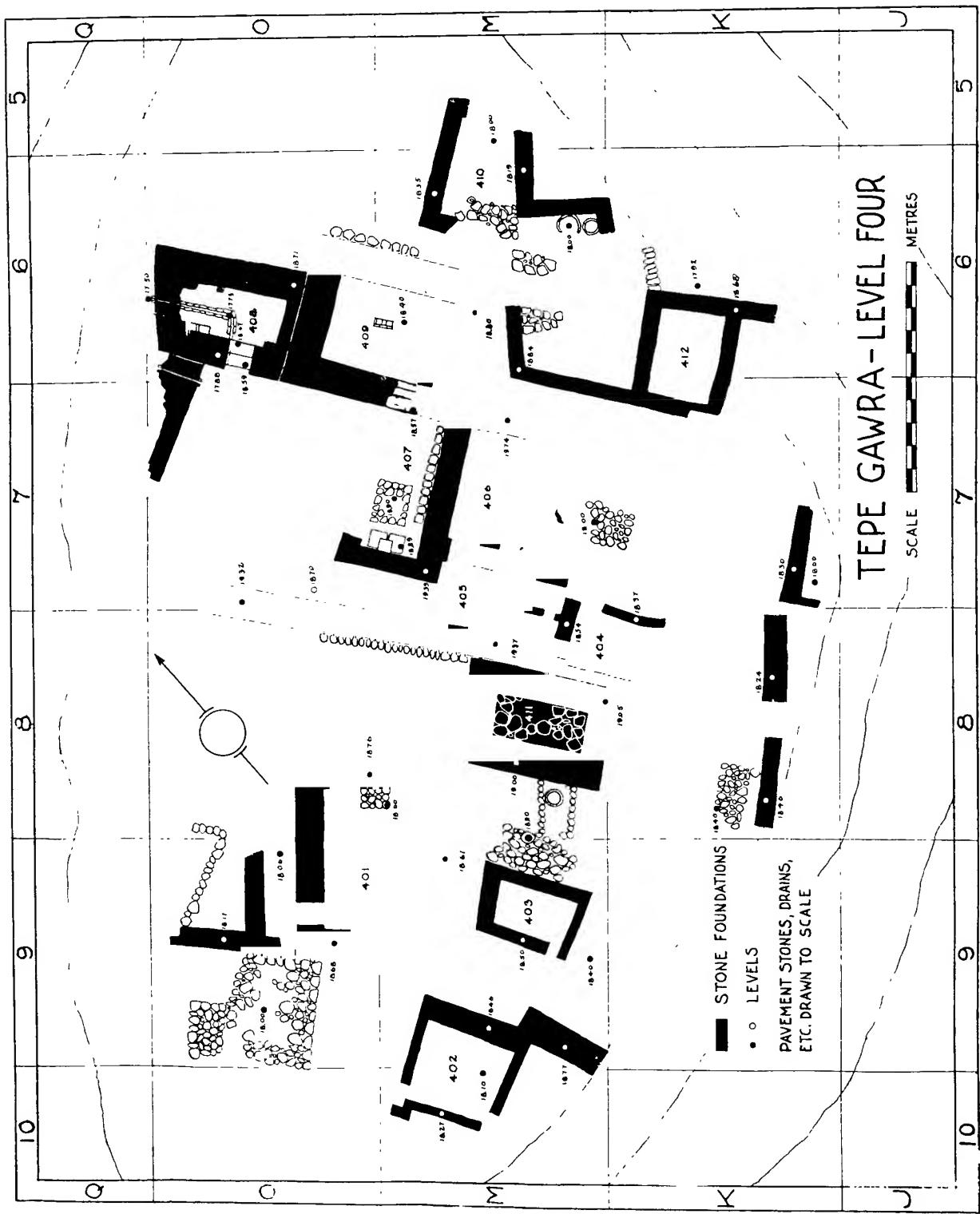


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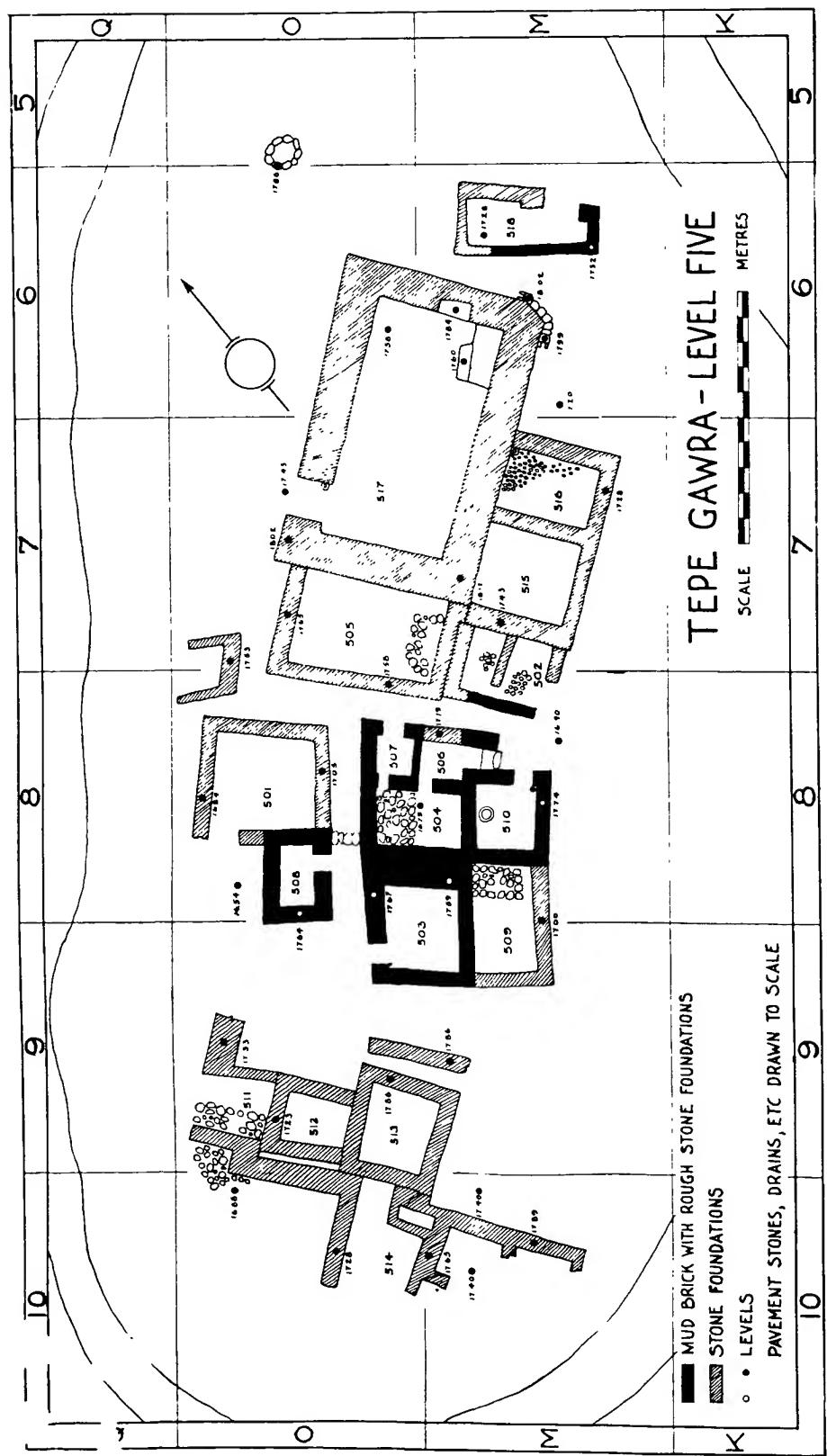
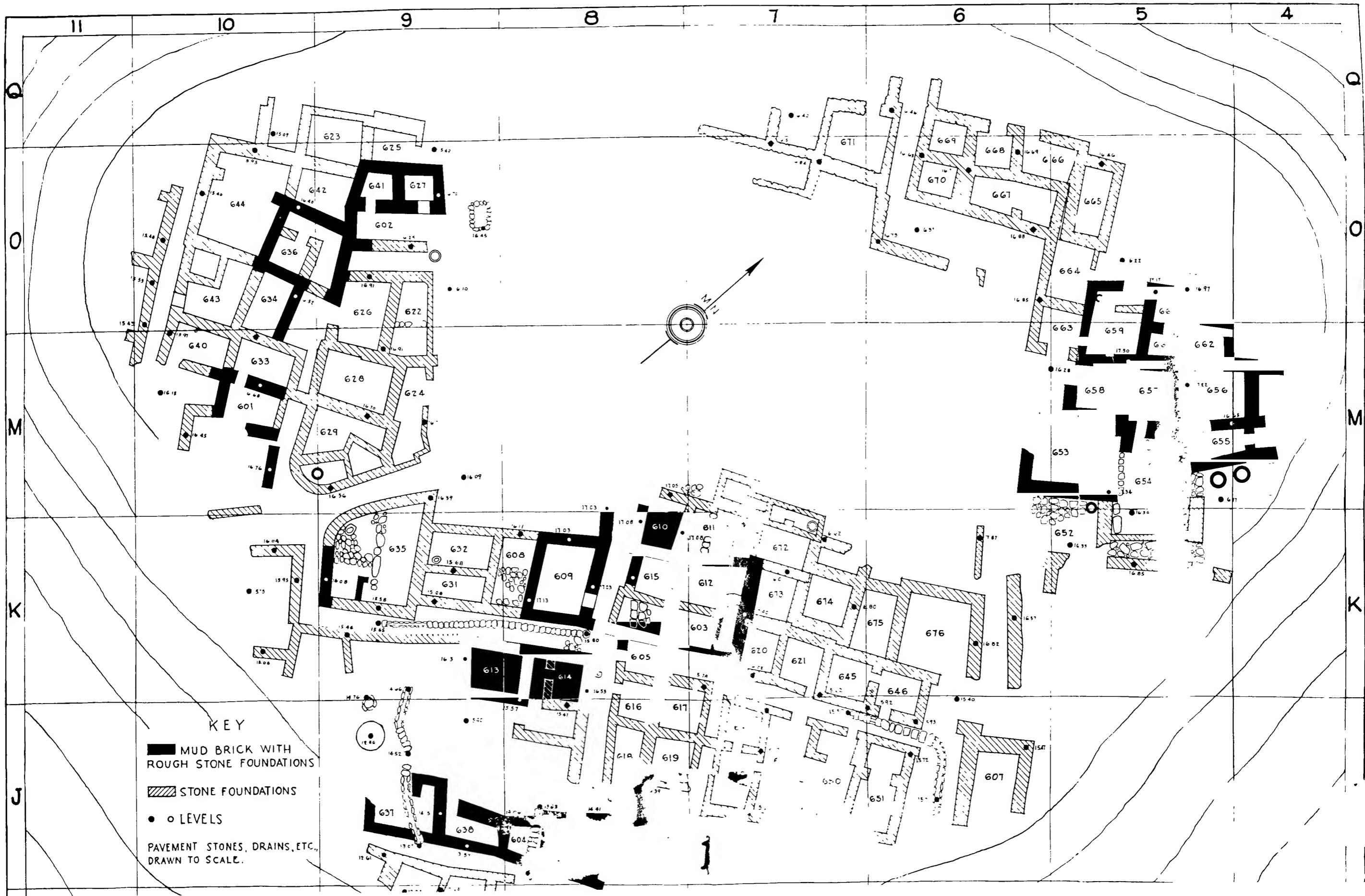
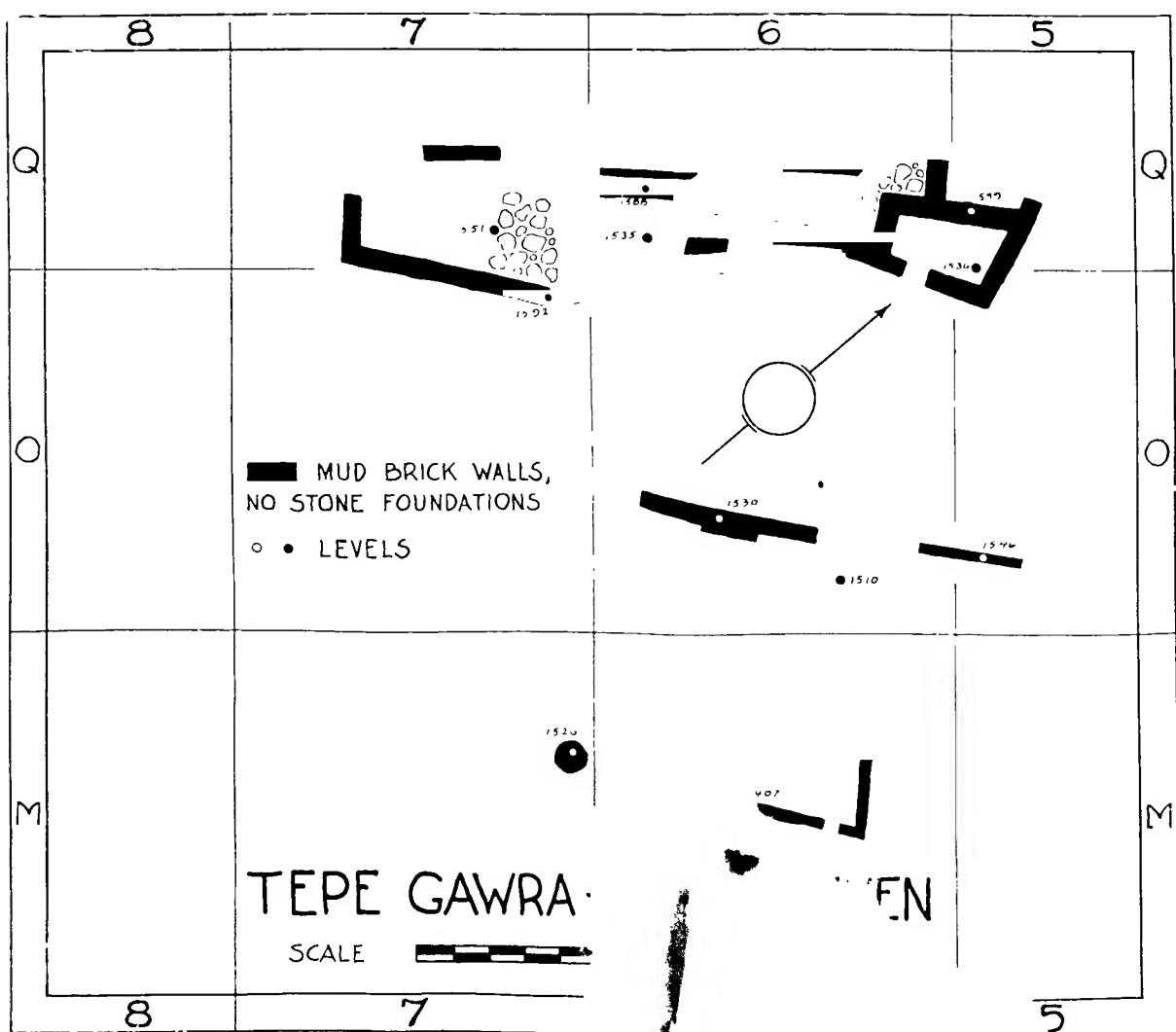
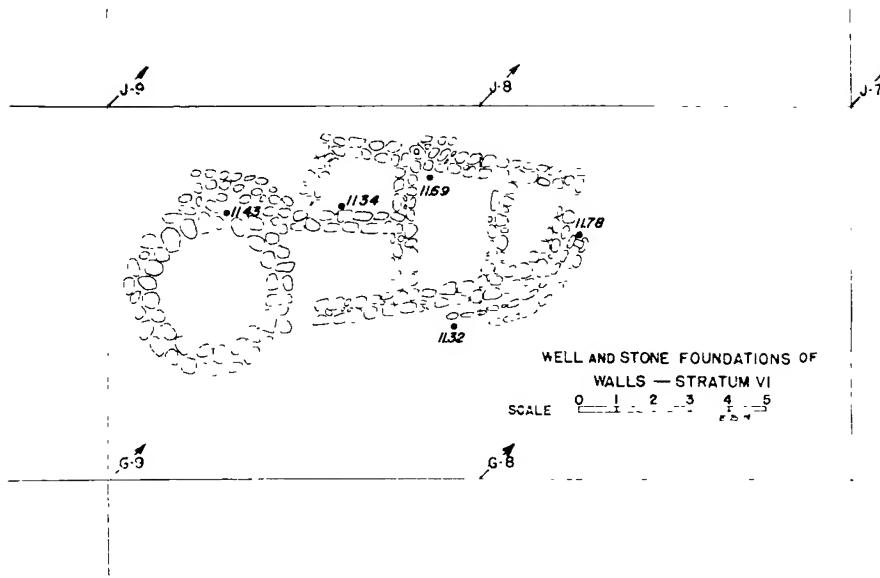


PLATE VI









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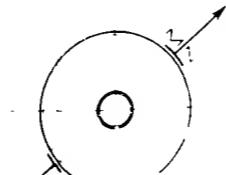
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WALLS OF EIGHT-C
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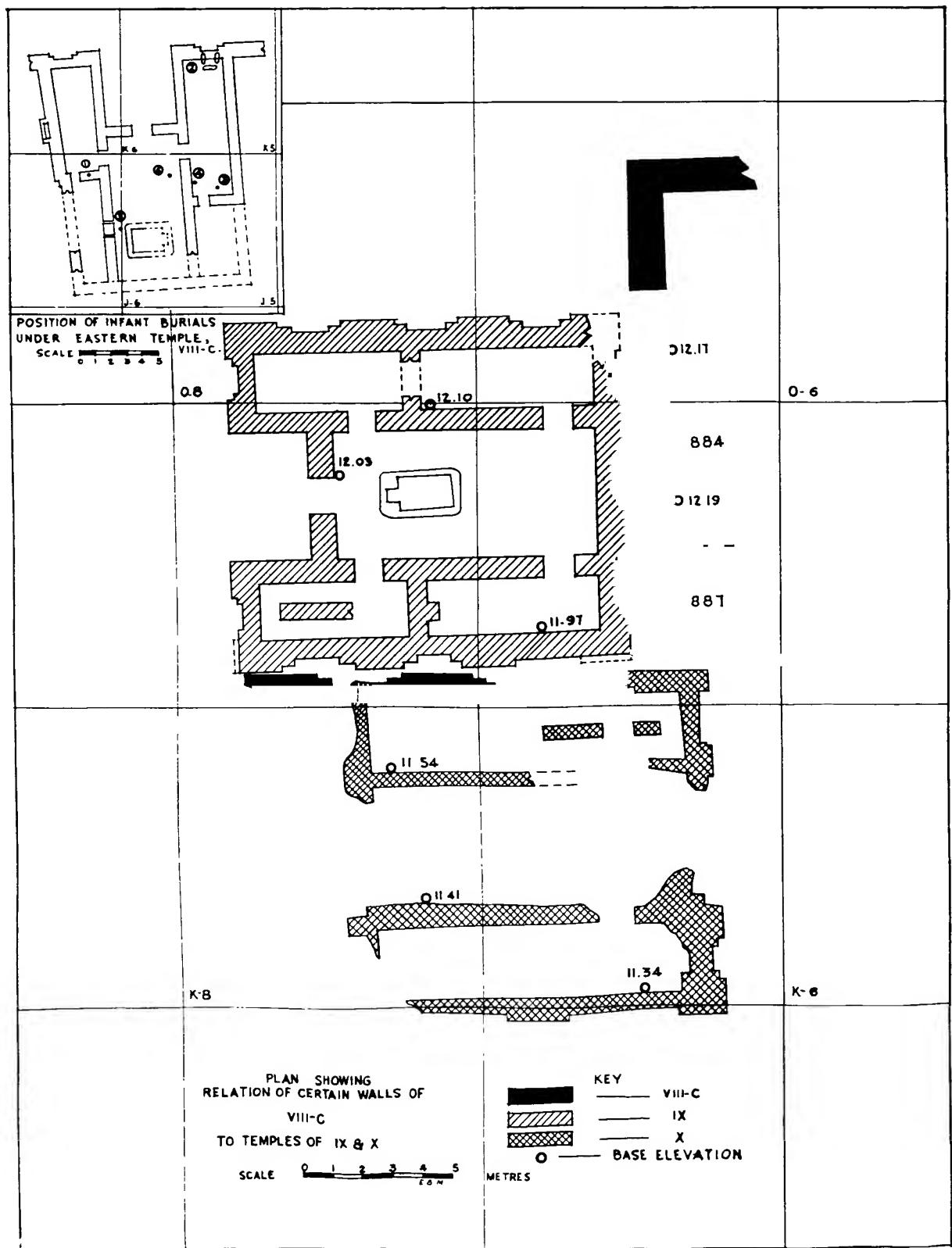


PLATE XII

Relation of Certain Walls of VIII-C to Temples of IX and X
Inset. Position of Infant Burials under Eastern Temple, VIII-C

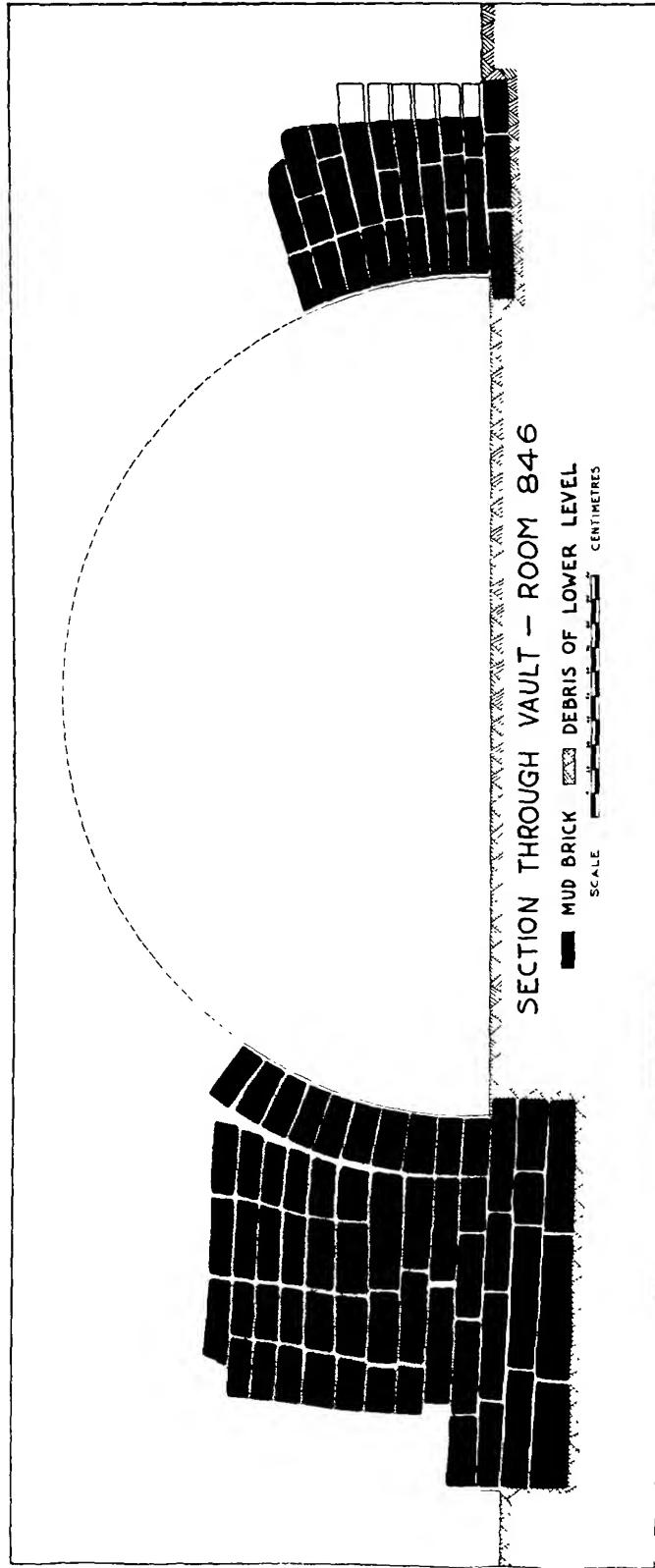
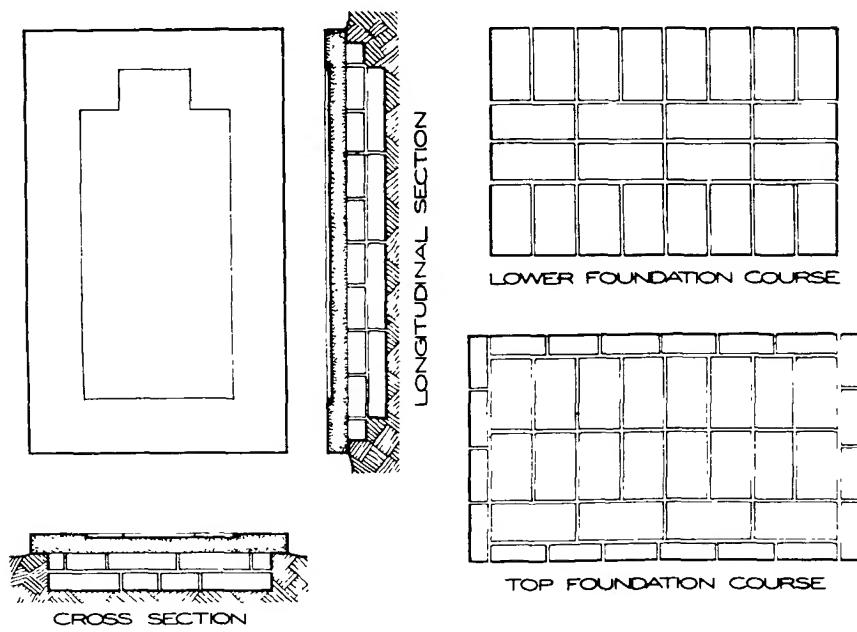
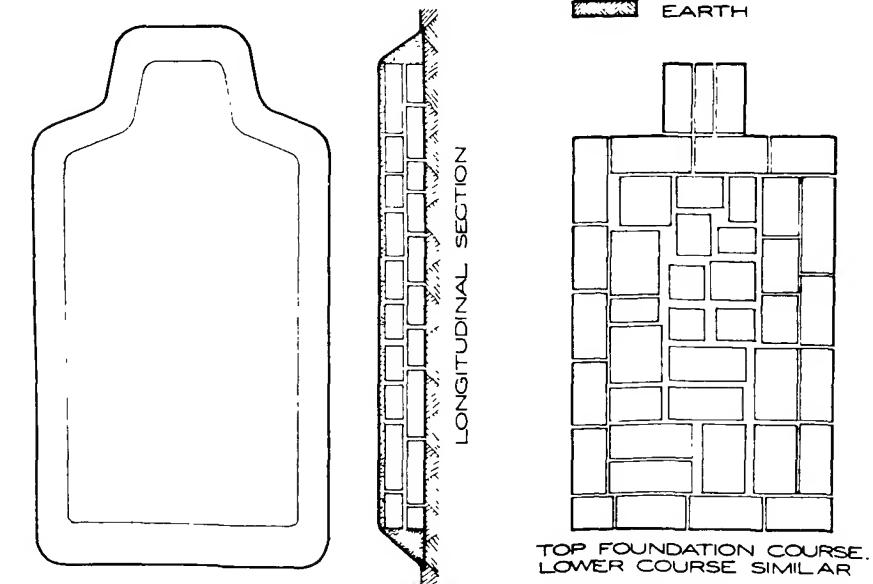


PLATE XIII



PODIUM IN EASTERN SHRINE
ROOM 802



PODIUM IN NORTHERN SHRINE
ROOM 808



PB

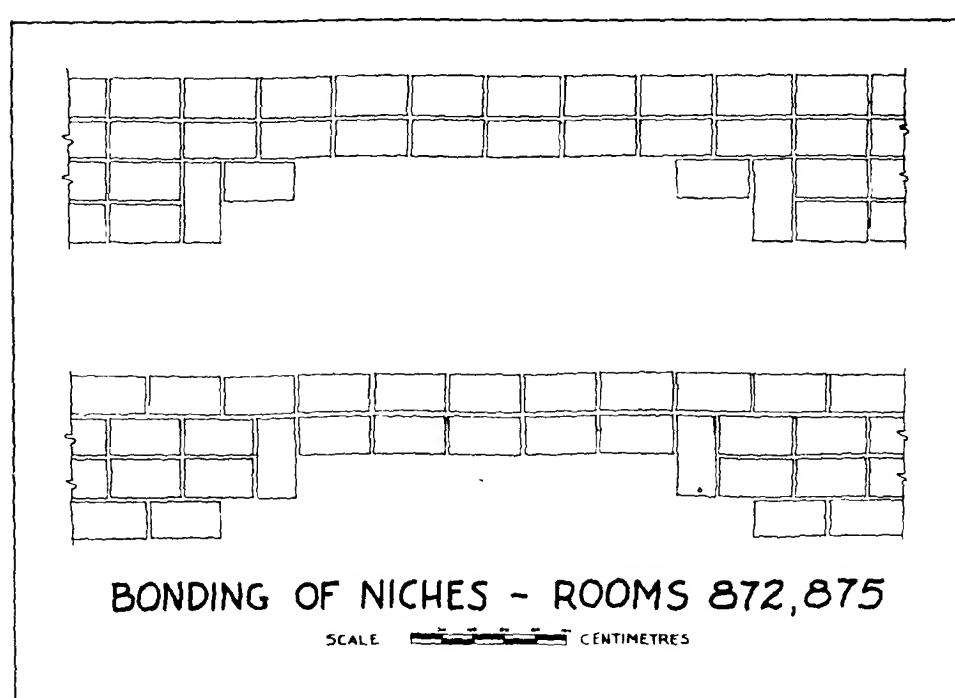
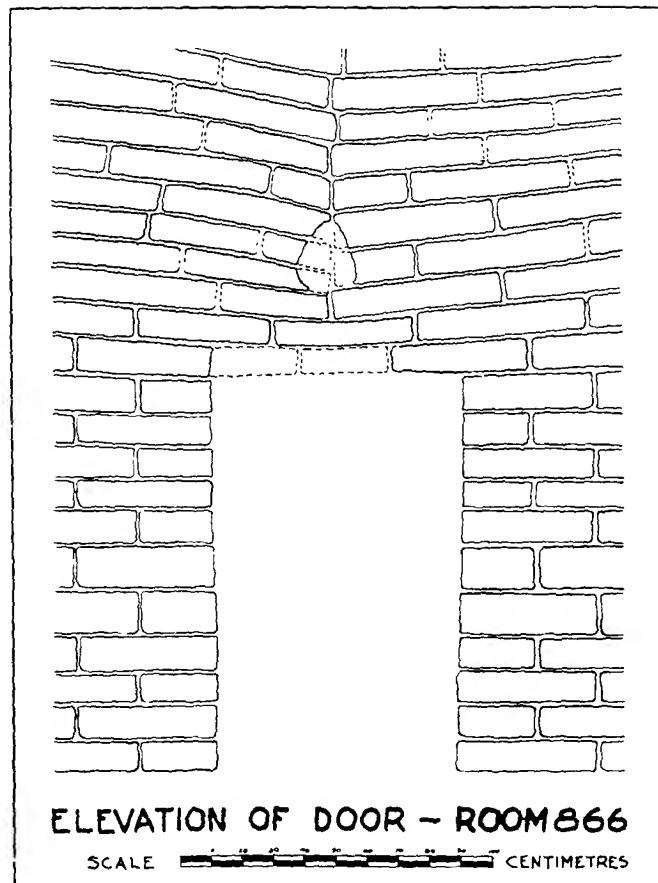
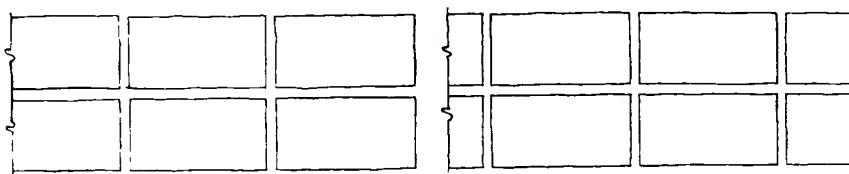
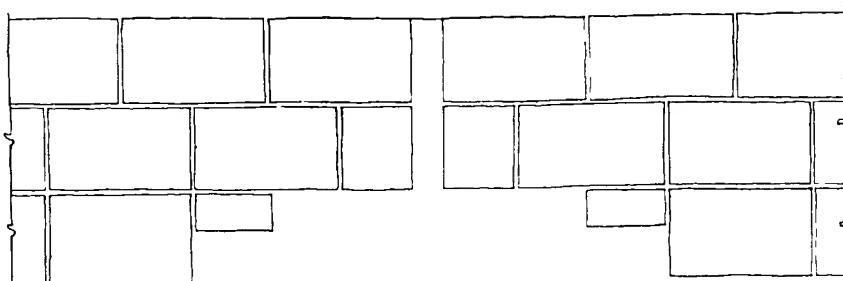
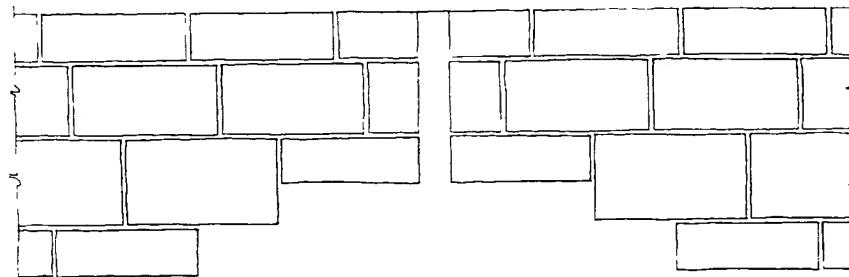


PLATE XV

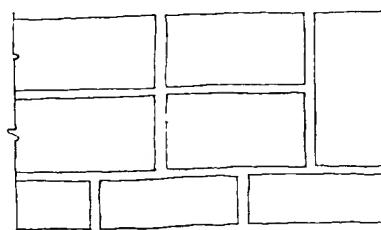
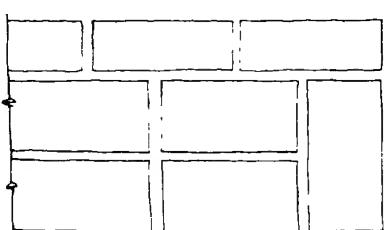


ROOM 811

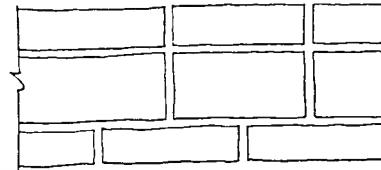
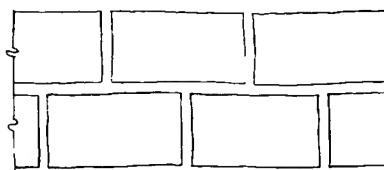


BONDING OF NICHES - ROOMS 837, 818

SCALE 0 10 20 30 40 50 60 70 80 CENTIMETRES



ROOM 804



ROOM 820

PLATE XVI

Bonding in Rooms 804, 811, and 820, and of Niches in Rooms 818 and 837



a



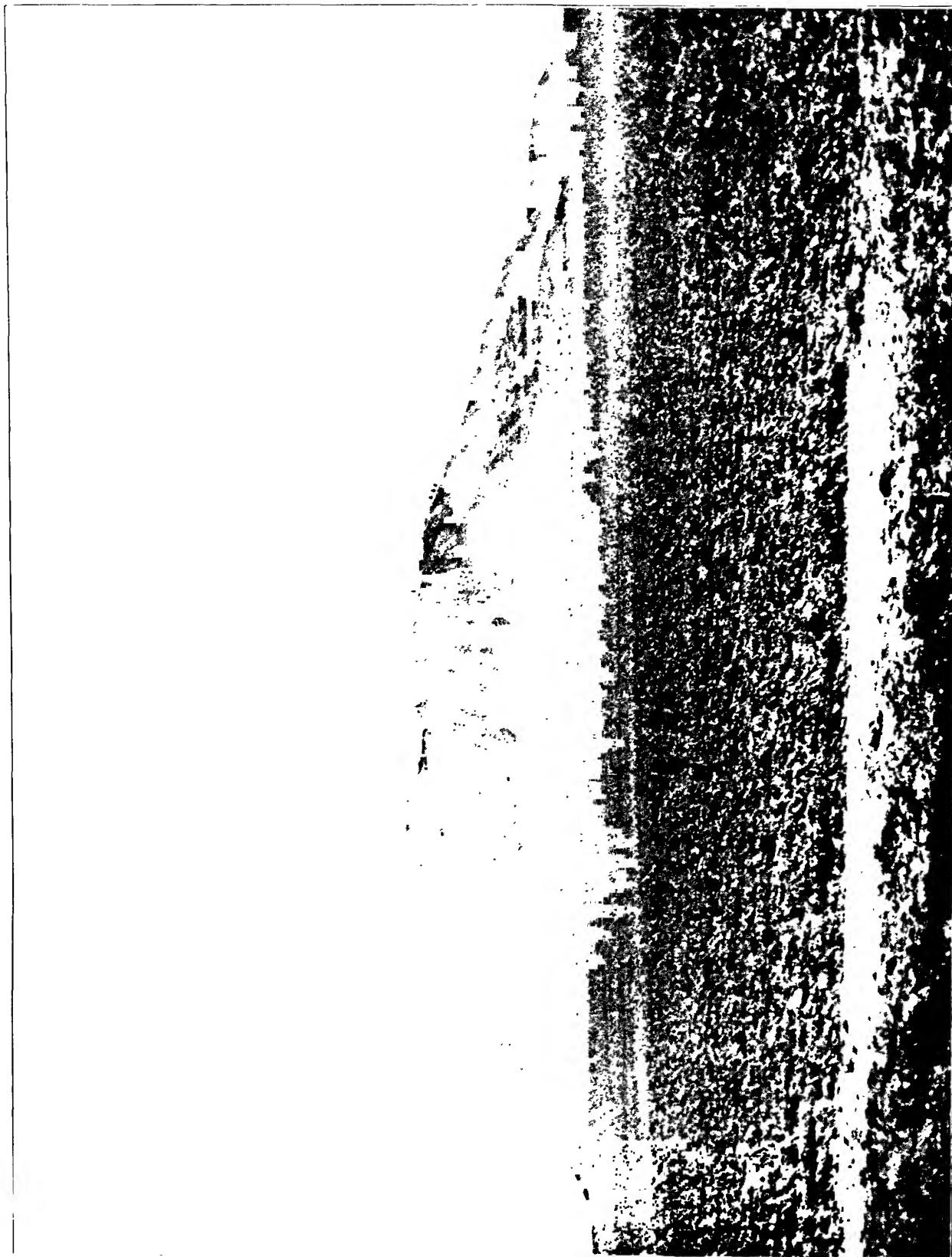
b

PLATE XVII

a. View of Southwesterly Trial Trench b. Group of Workmen

PLATE XVIII

Tepé Gawra from the Northwest at the End of the Second Campaign





a



b

PLATE XIX

a Steps Leading to Cella, Room 409

b Gawra IV Viewed from the Eastern Corner of Room 406



a



b

PLATE XX

- a. Altar and Wall Bench in Room 407, from the East
b. Foundations in Gawra VI (East Corner)



PLATE XXI

- a* Skeleton in Courtyard 830
- b* Ramp (835) Looking Toward Courtyard 830
- c* Ramp (835) Seen from the Courtyard

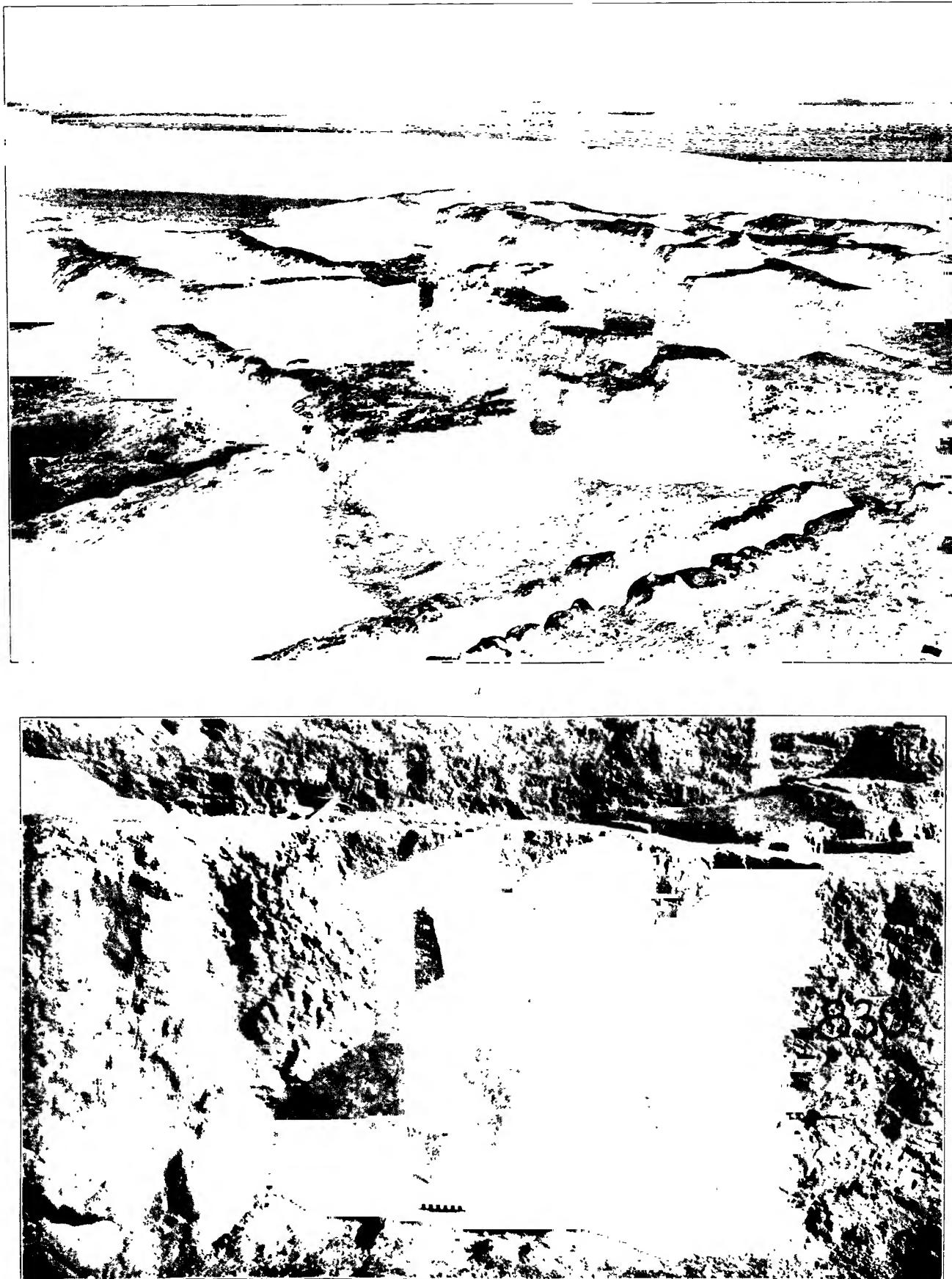


PLATE XXII

a The Western Temple in Gavra VIII-B

b Niche and Window in Room 825

b. Doorway in Room 866

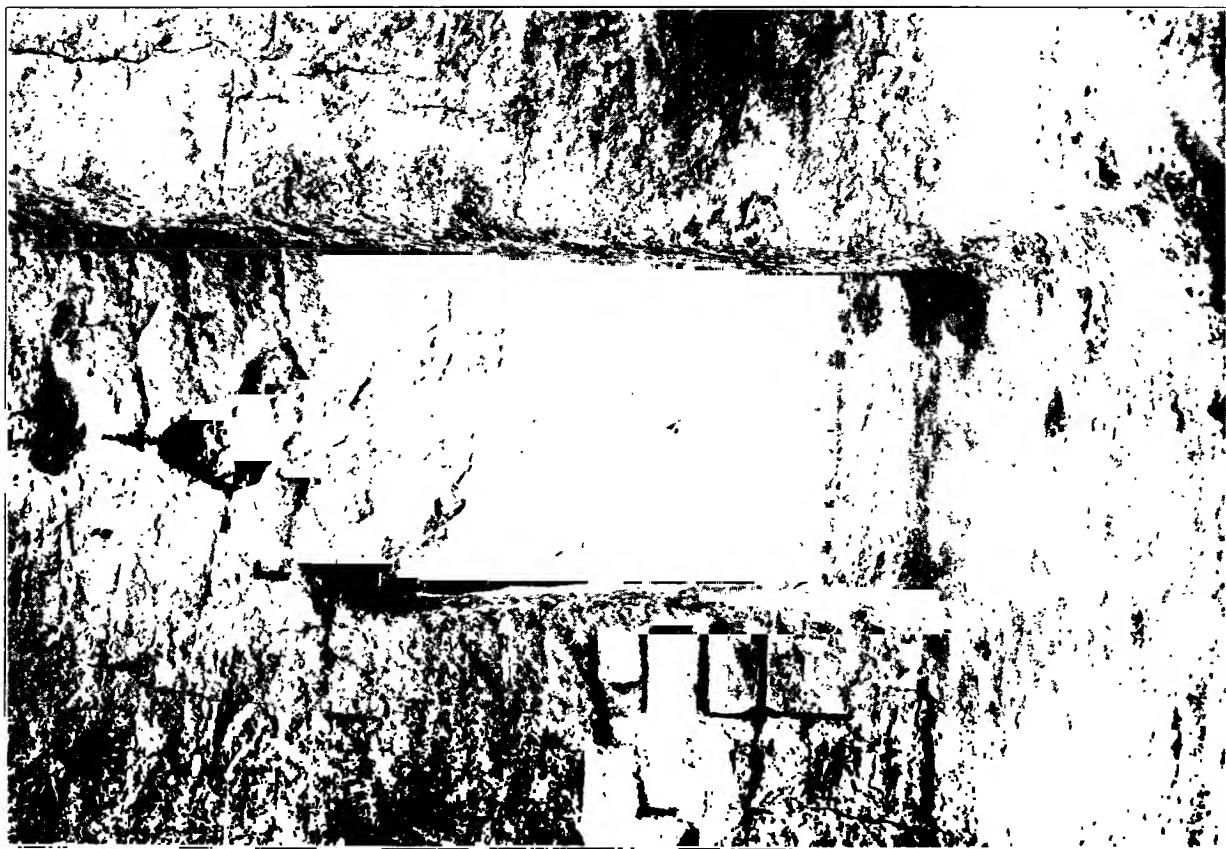
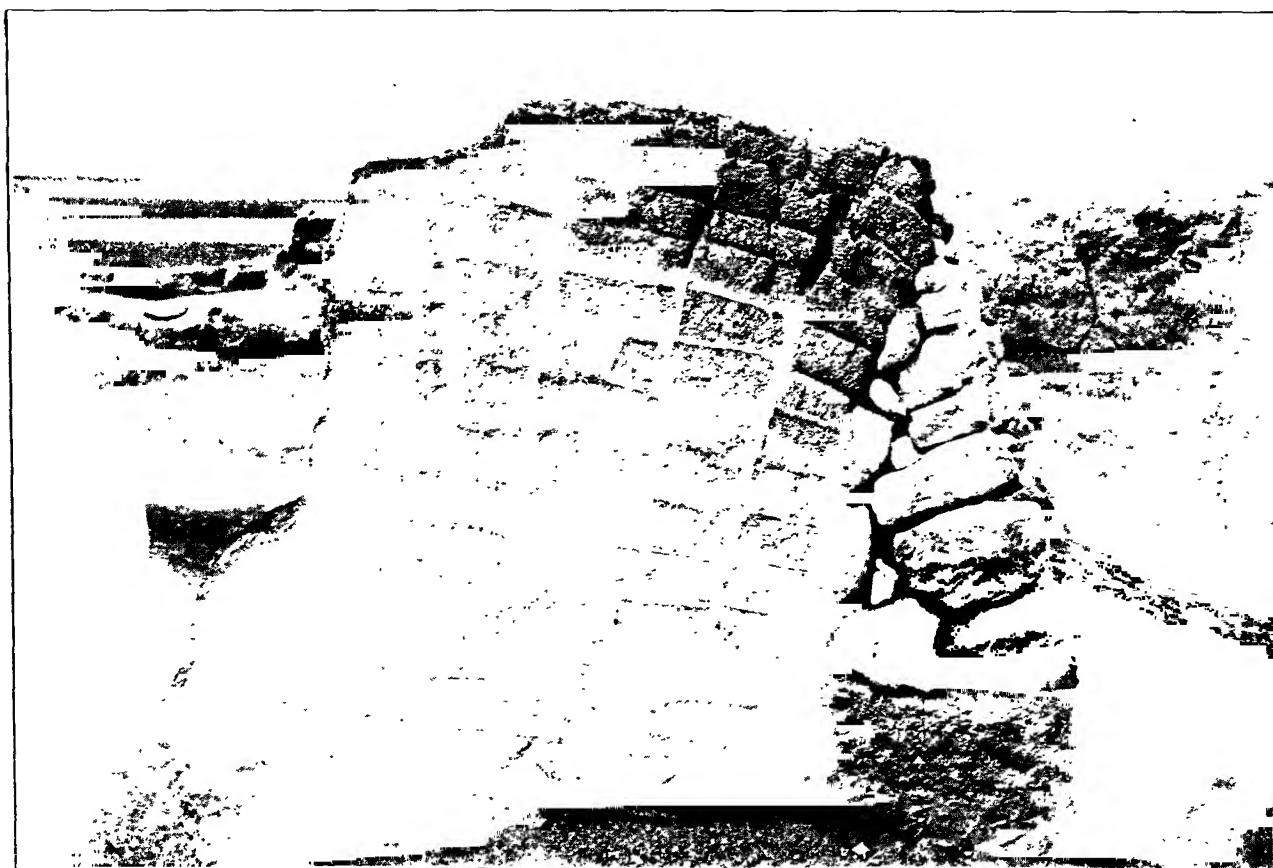


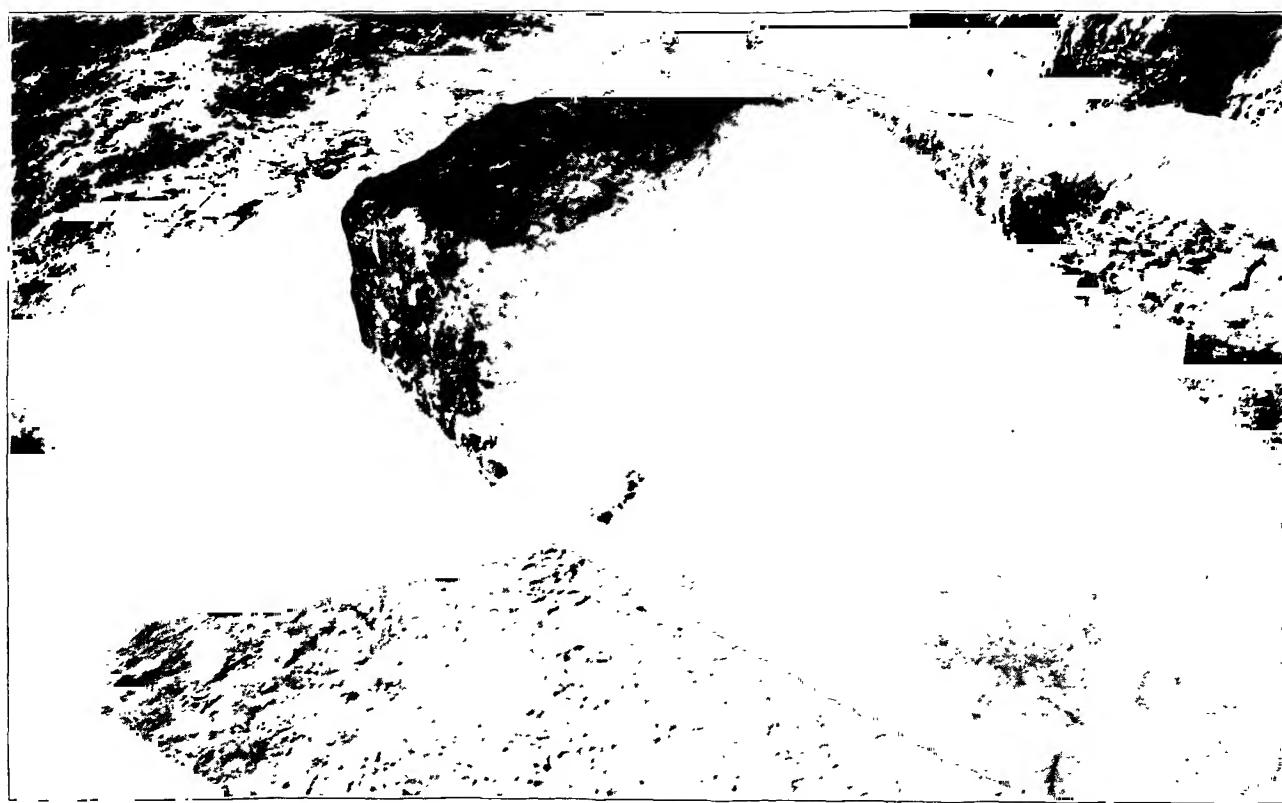
PLATE XXXIII

a. Southwest Street in Stratum VIIIA Seen from the Northwest





a



b

PLATE XXIV

a. Part of Vault, Room 846

b. Basin in Room 832



a



b

PLATE XXV

a. Top of Well in Stratum VIII-B, Square J7

b. Podium in Room 808



a

b



PLATE XXVI

Painted Pottery from Trial Trench, Stratum XIII
a. Bowl b. Cup c. Burial Urn

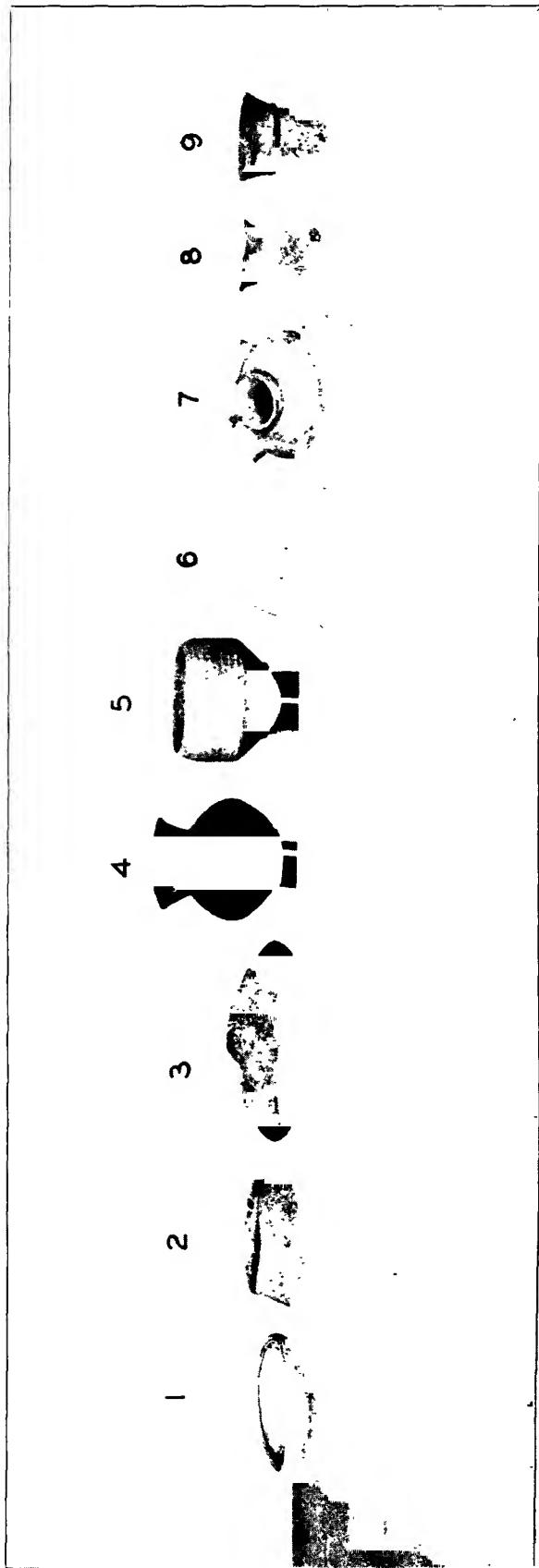
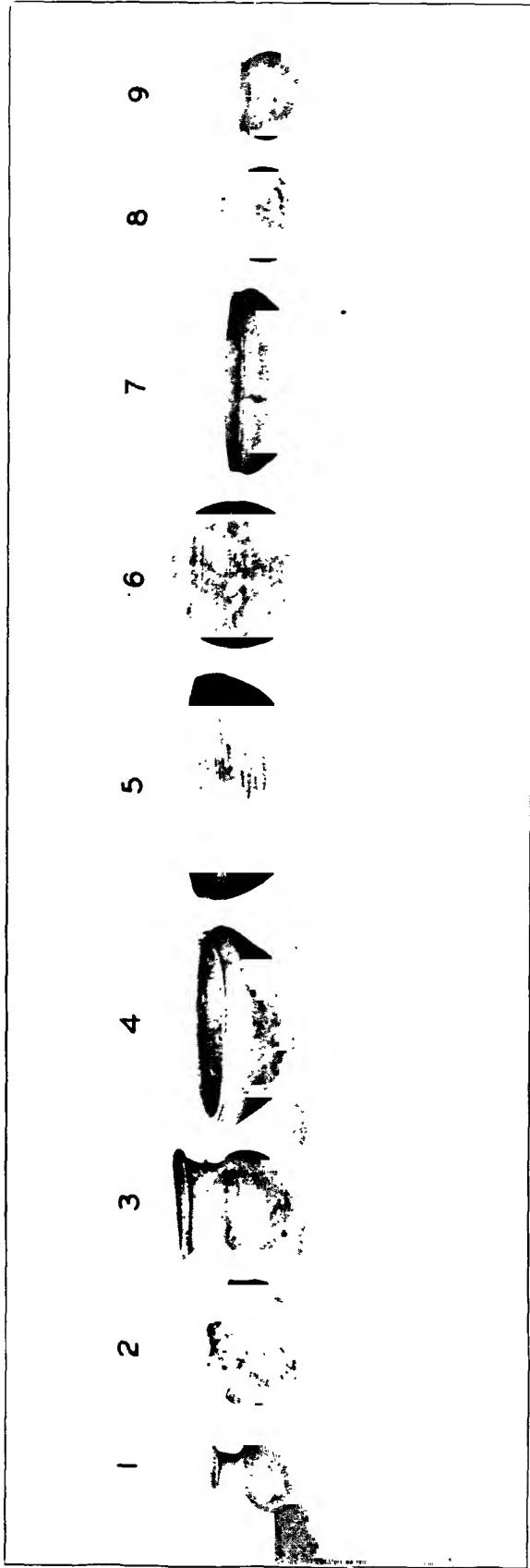
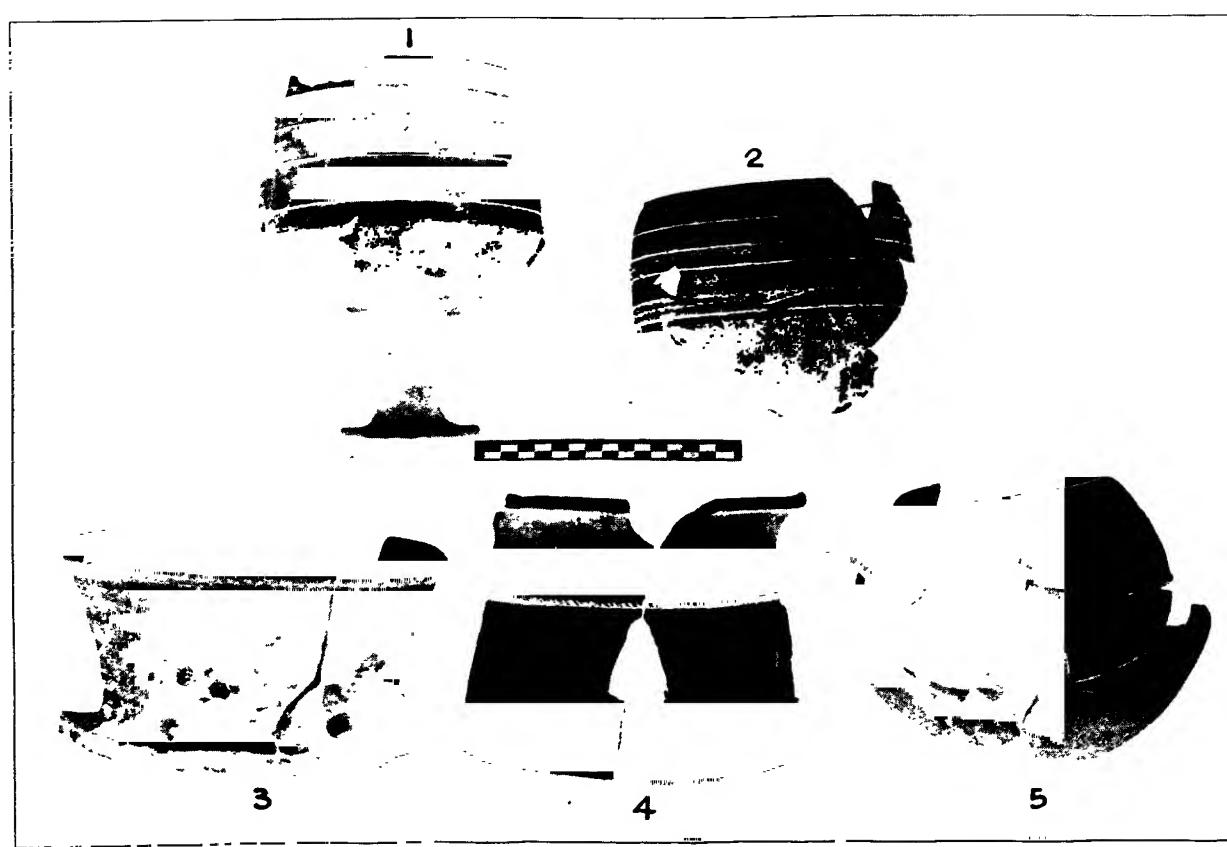


PLATE XXVII

a Selected Pottery from Stratum *VI*

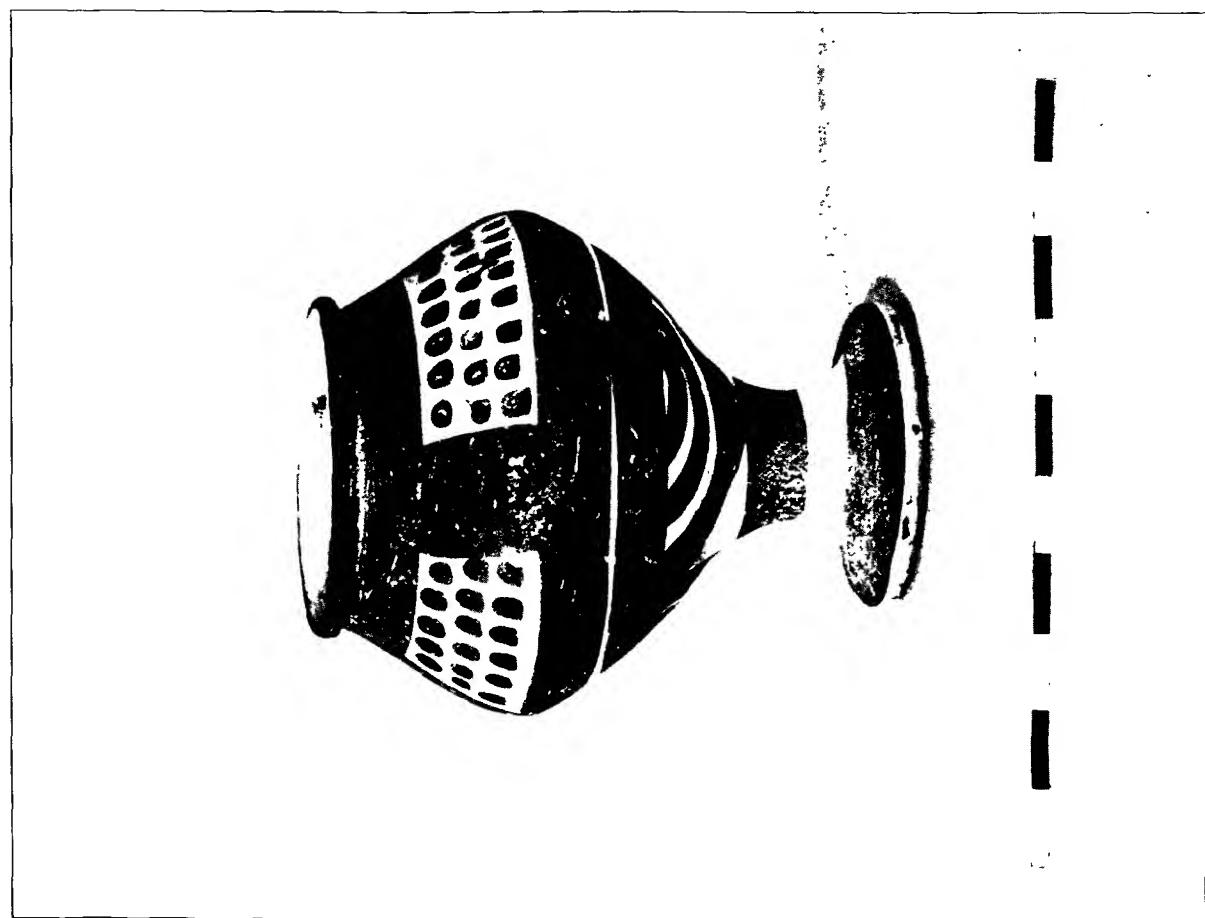
b Selected Pottery from Stratum *VII*



b

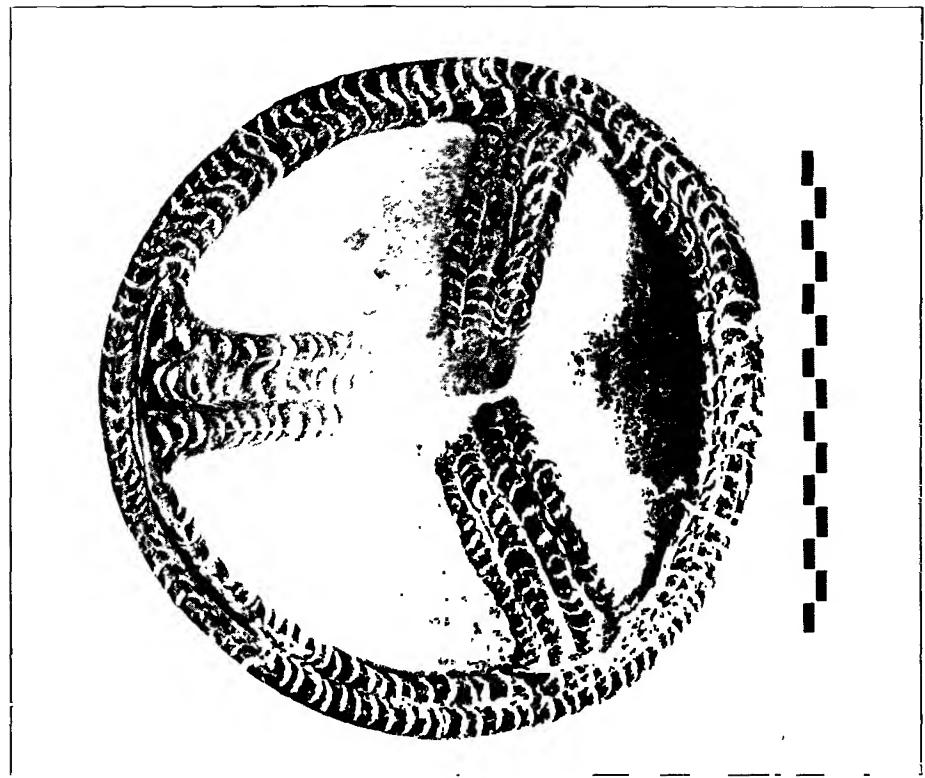
PLATE XXVIII

- a Cult Objects from Tepe Gawra (Nos. 1-4) and Tell Billa (No. 5)
b Nos. 1-2. Pottery from Stratum *VII* Re-used in Shrine of Stratum *IV*:
Nos. 3-4 Cult Objects from Stratum *VI*,
No. 5. Spouted Vessel from Stratum *VIII*



a Chalice from Trial Trench at Level of Gawra III

PLATE XXIX



b Pottery Basket from Stratum II'



PLATE XXX
Incense Burner from Stratum IV



PLATE XXXI

a. Pottery Smoothers from Stratum VIII

b. Ladles from Stratum VIII

PLATE XXXII

Human Figurines of Clay
(Nos. 1 and 4—Stratum 17; Nos. 2 and 3—Unstratified)

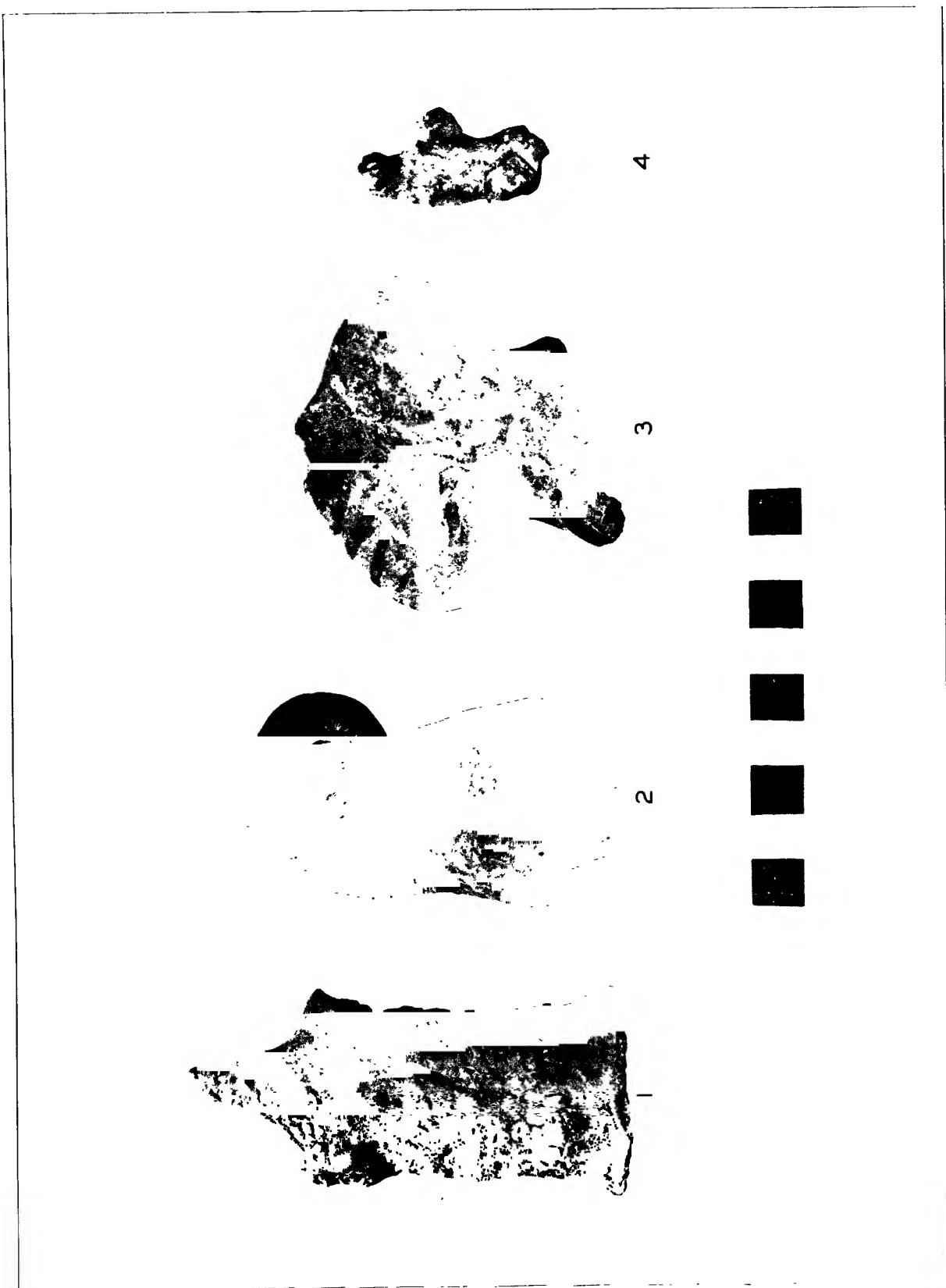


PLATE XXXIII

Terracotta Statuette from the Well in Square J7, Probably Stratum I.

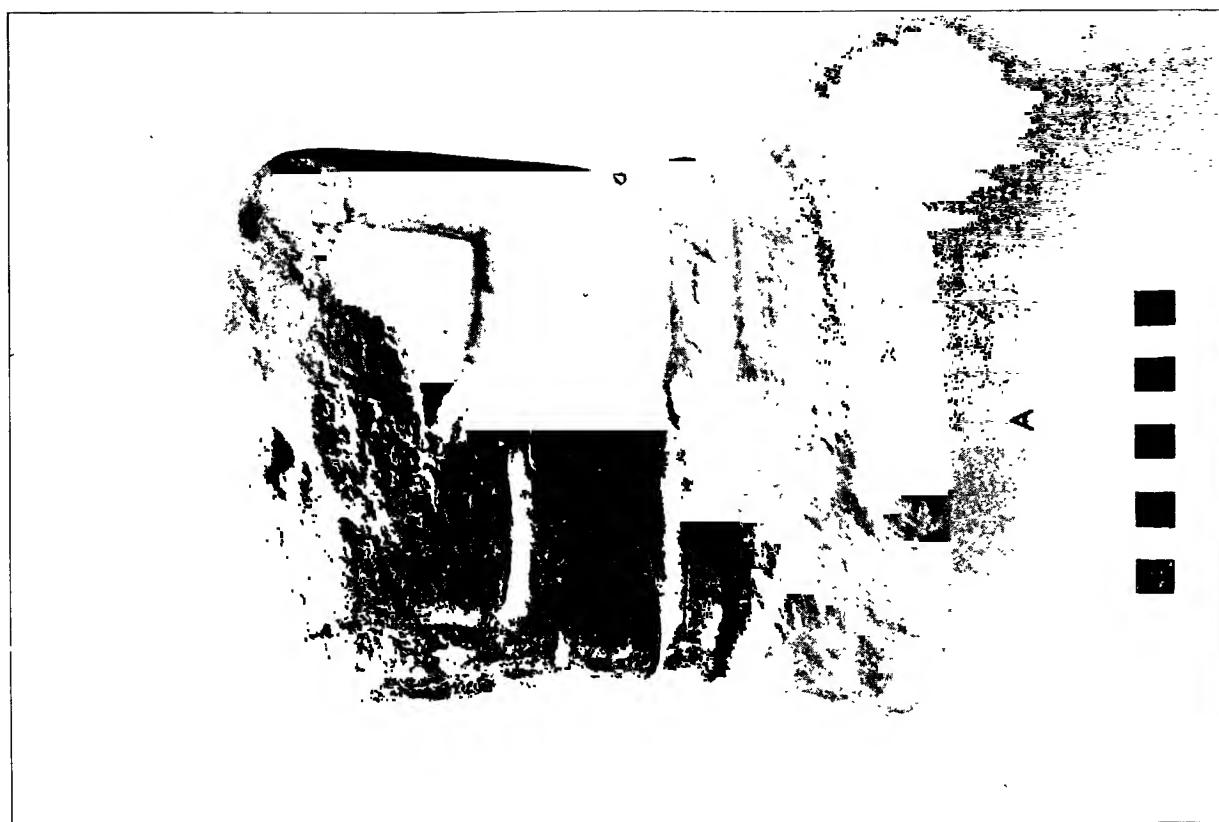
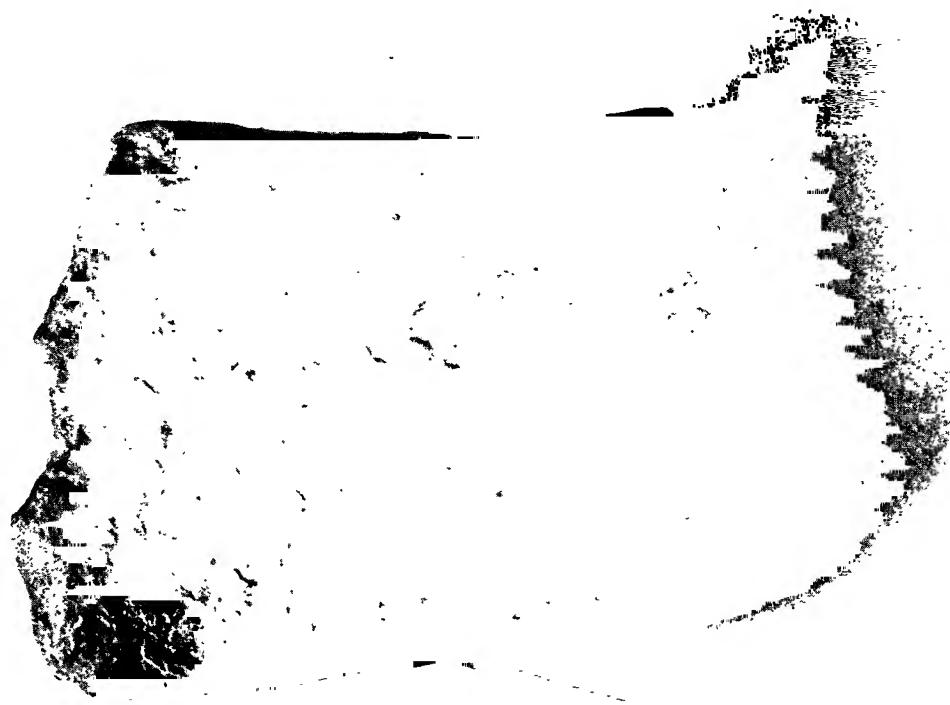
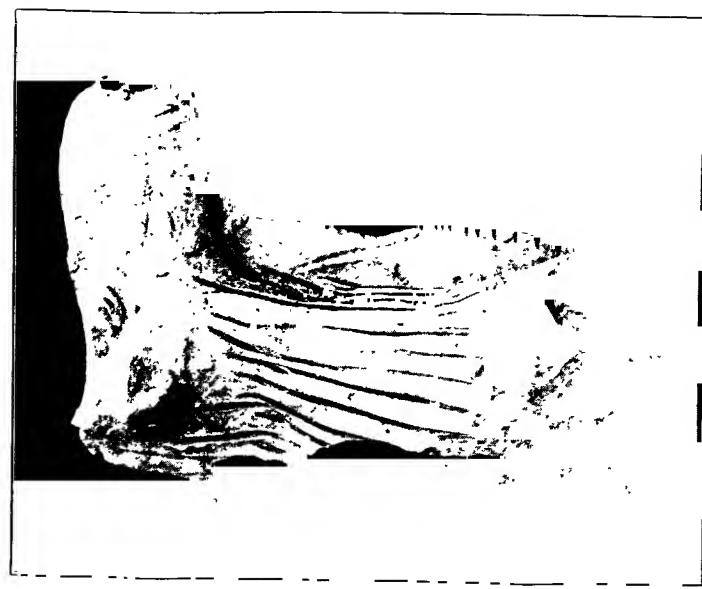
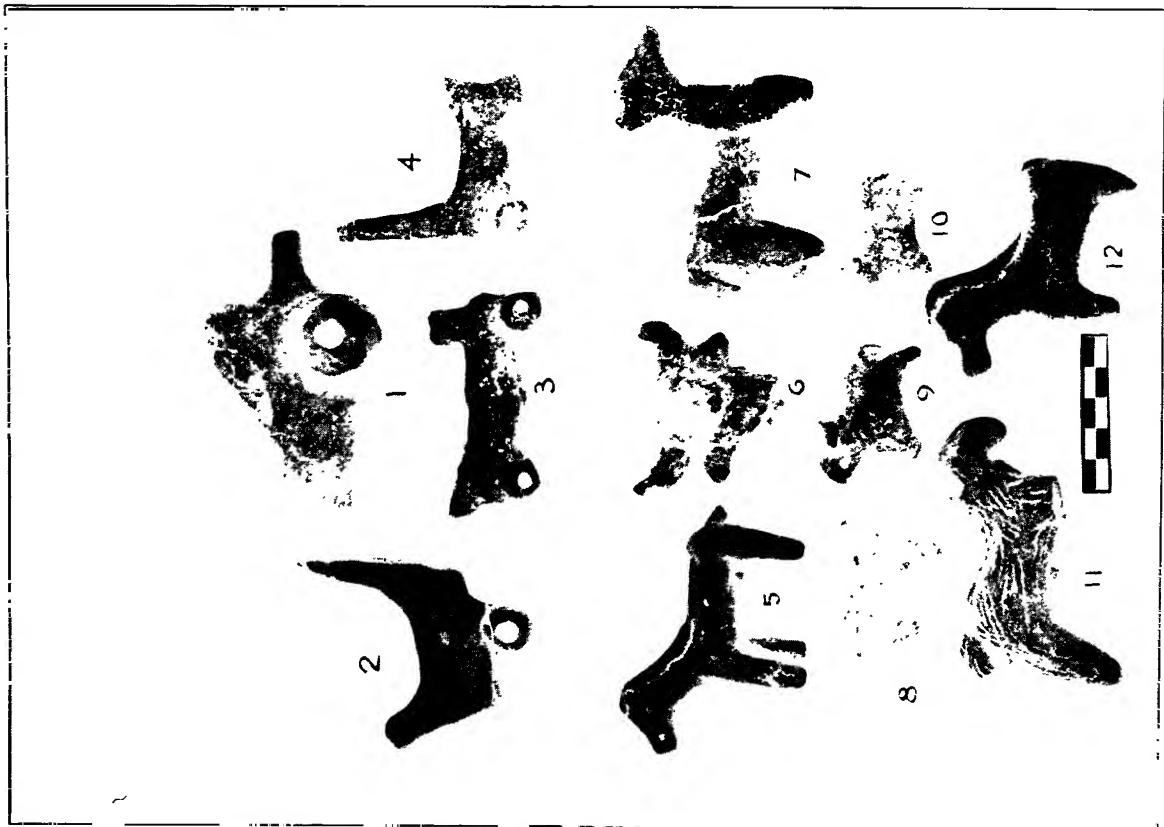
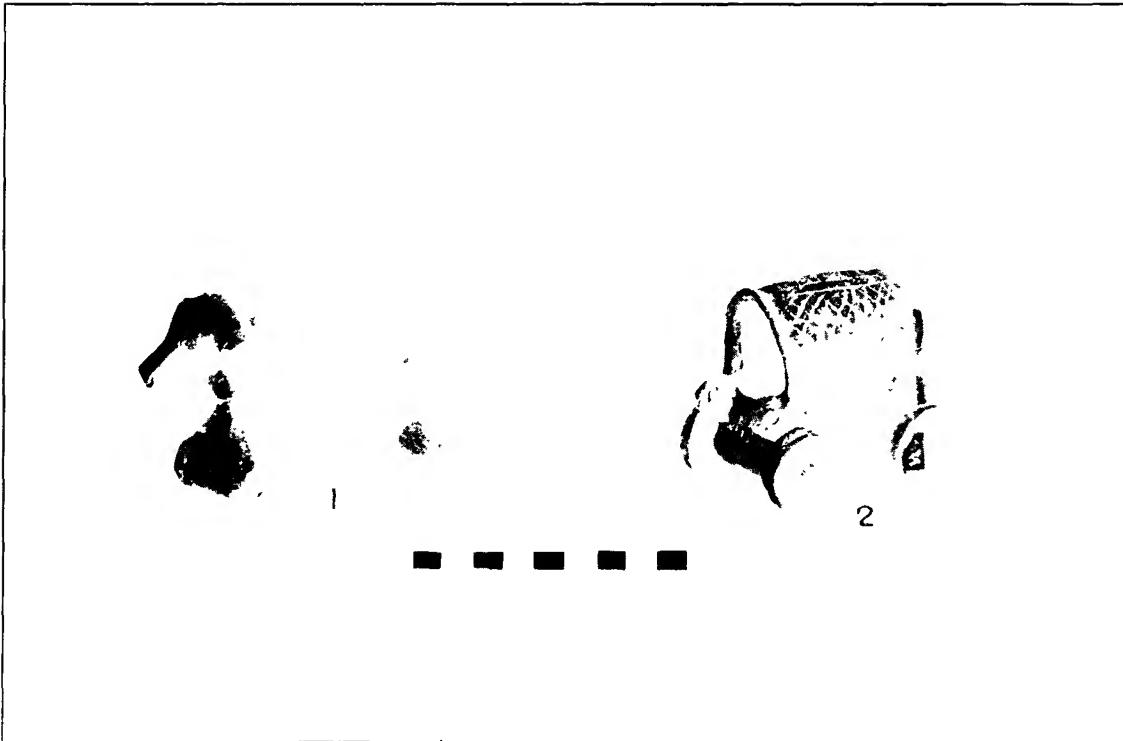


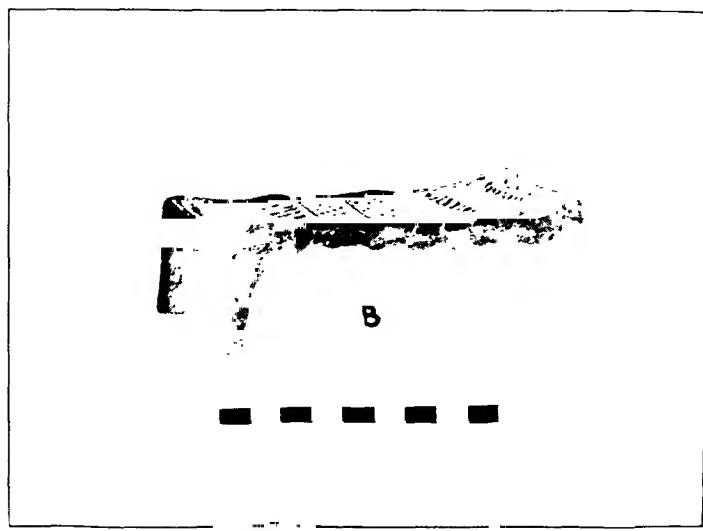
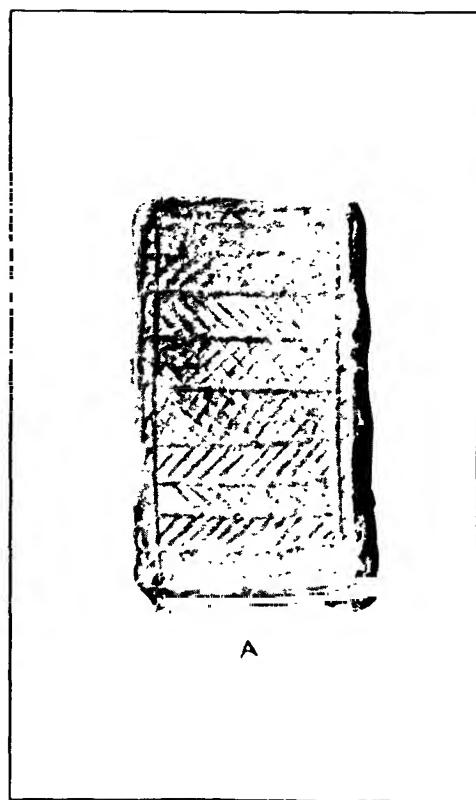
PLATE XXXIV

- a. Terracotta Hedgehog from Stratum V'
- b. Terracotta Head of Horse from Stratum V'
- c. Selected Terracotta Figurines





a



b

PLATE XXXV

- a Terracotta Figurine of Wheeled Animal and 'Covered Wagon' from Stratum VI
b Terracotta Couch from Stratum VI

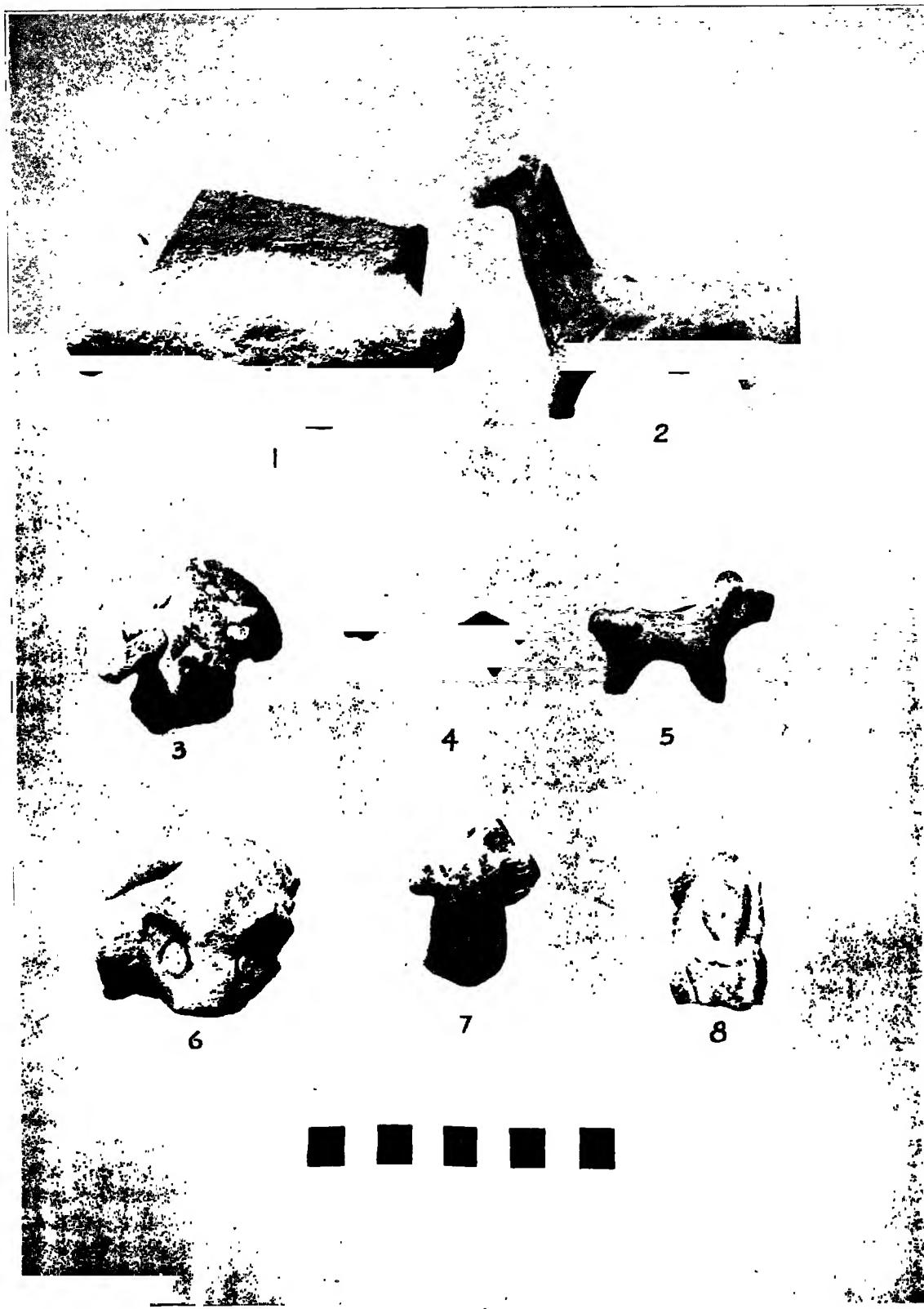


PLATE XXXVI
Selected Terracotti Figurines

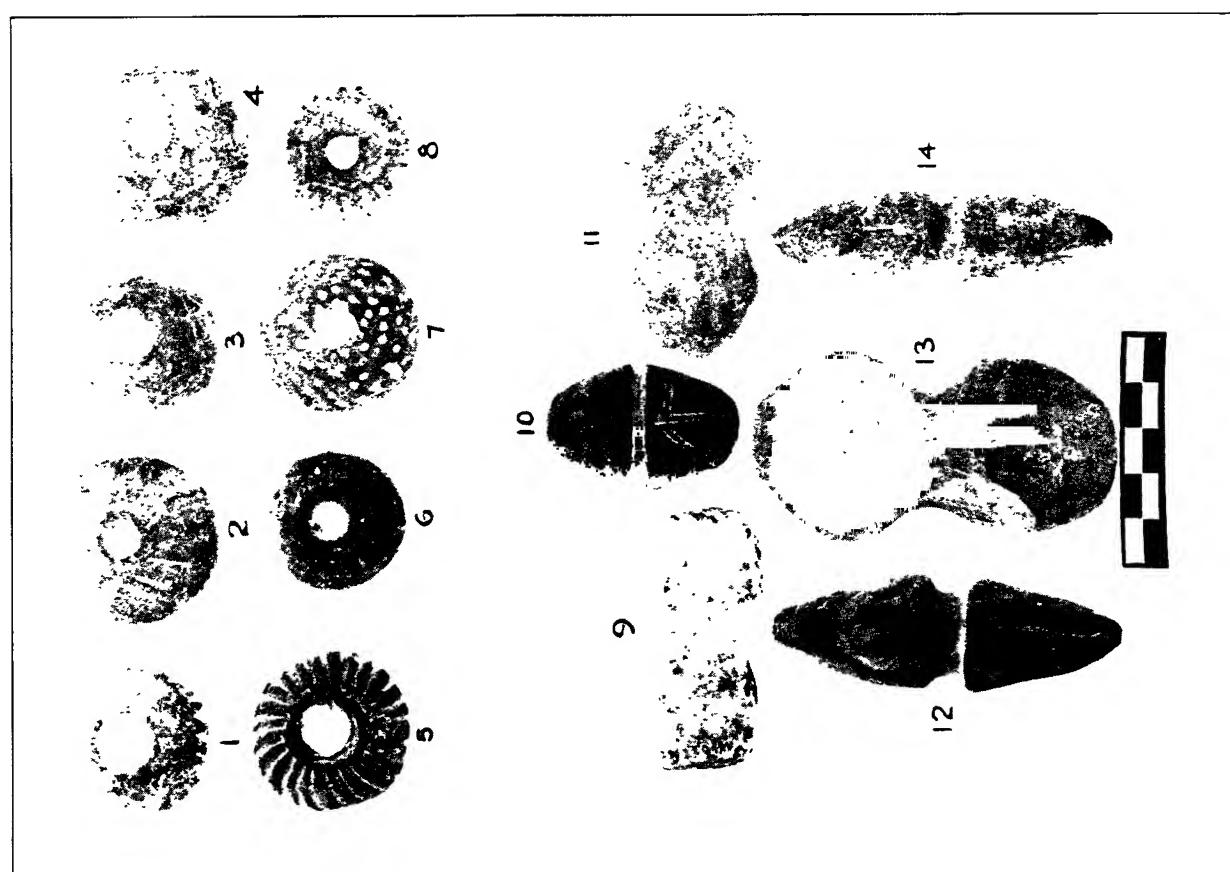
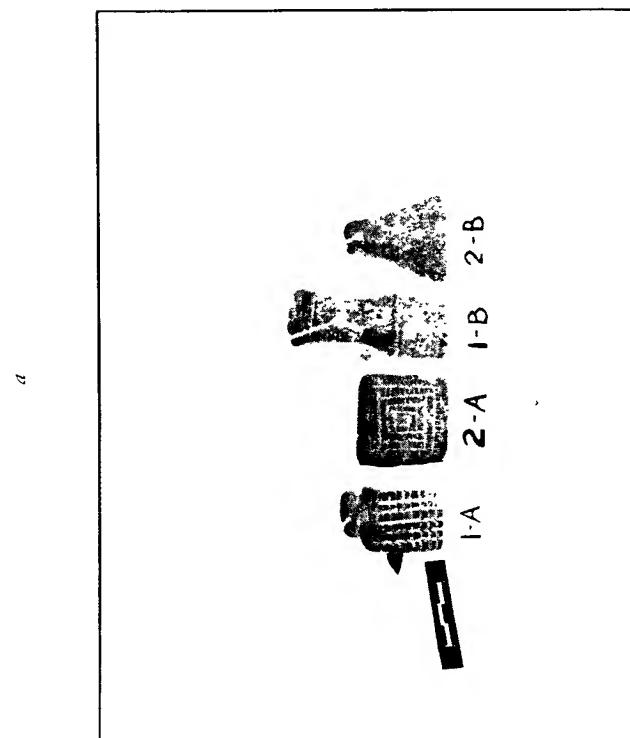
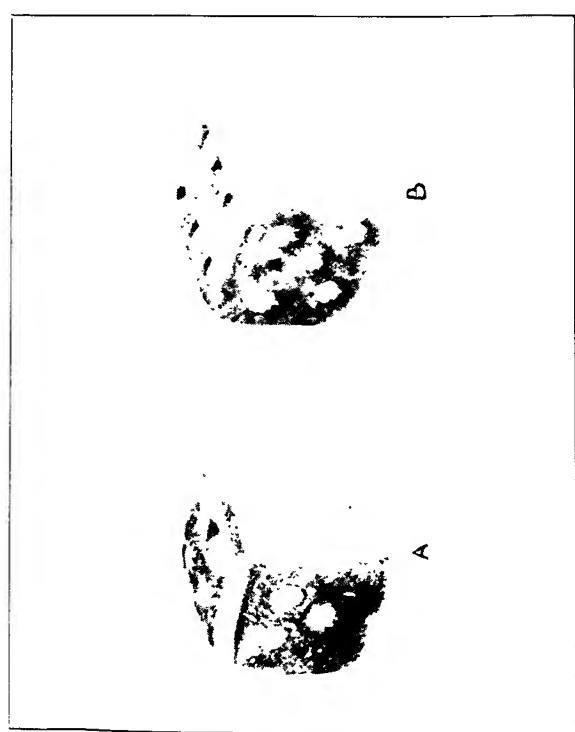


PLATE XXXVII

b. Terracotta Stamps from Stratum I'

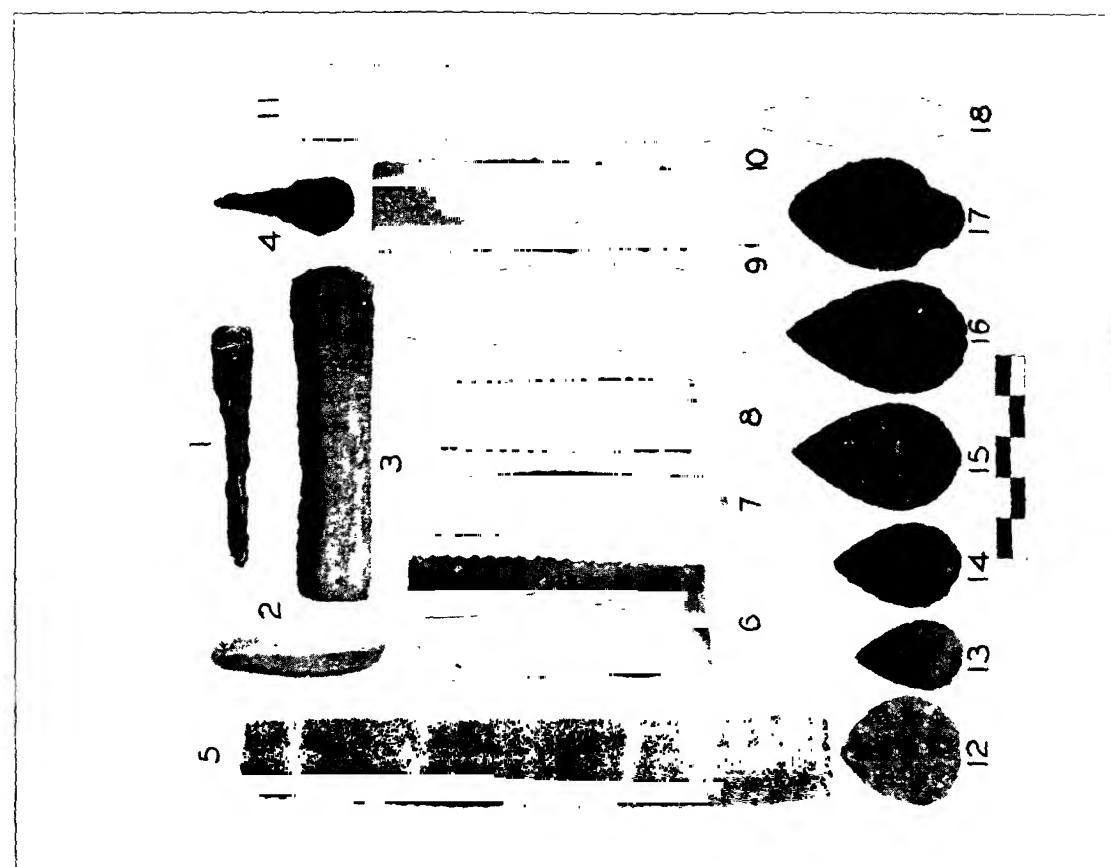
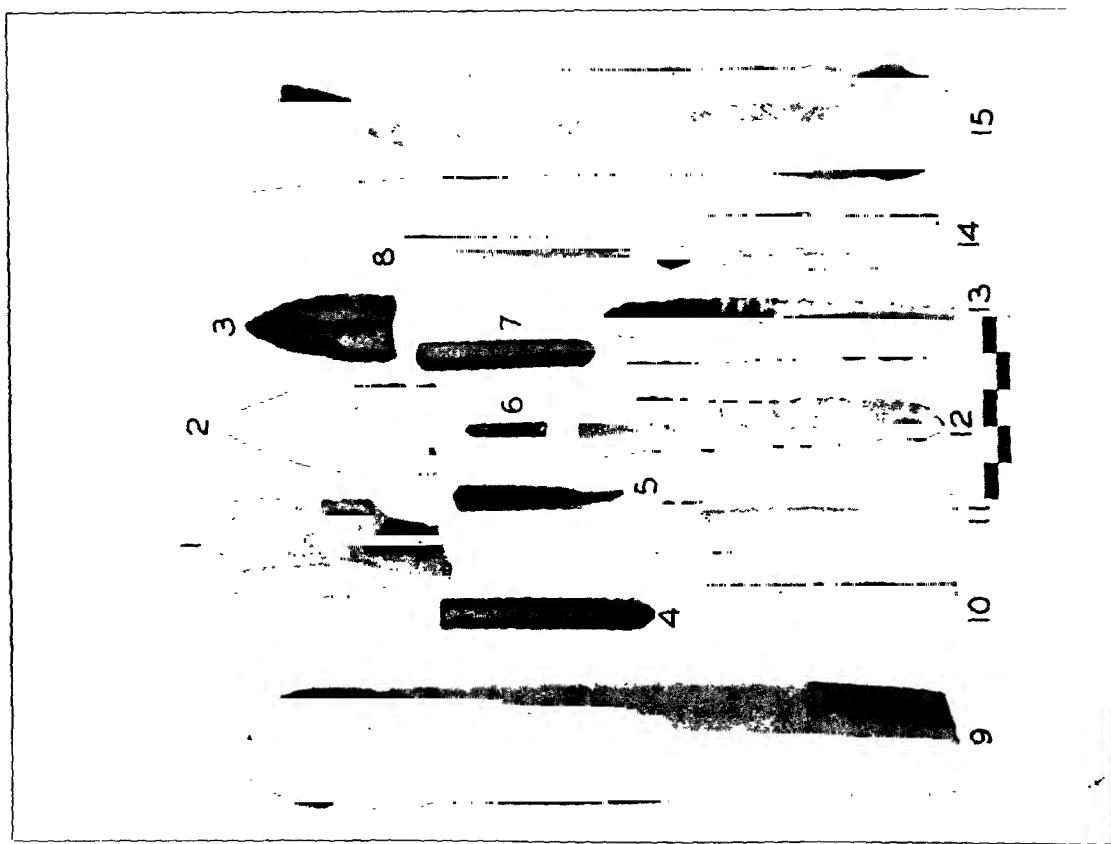
c. Terracotta Whorls and Bobbins



b

a. Ginning Piece from Stratum I'

PLATE XXXVIII
a Flint Implements *b* Obsidian Implements



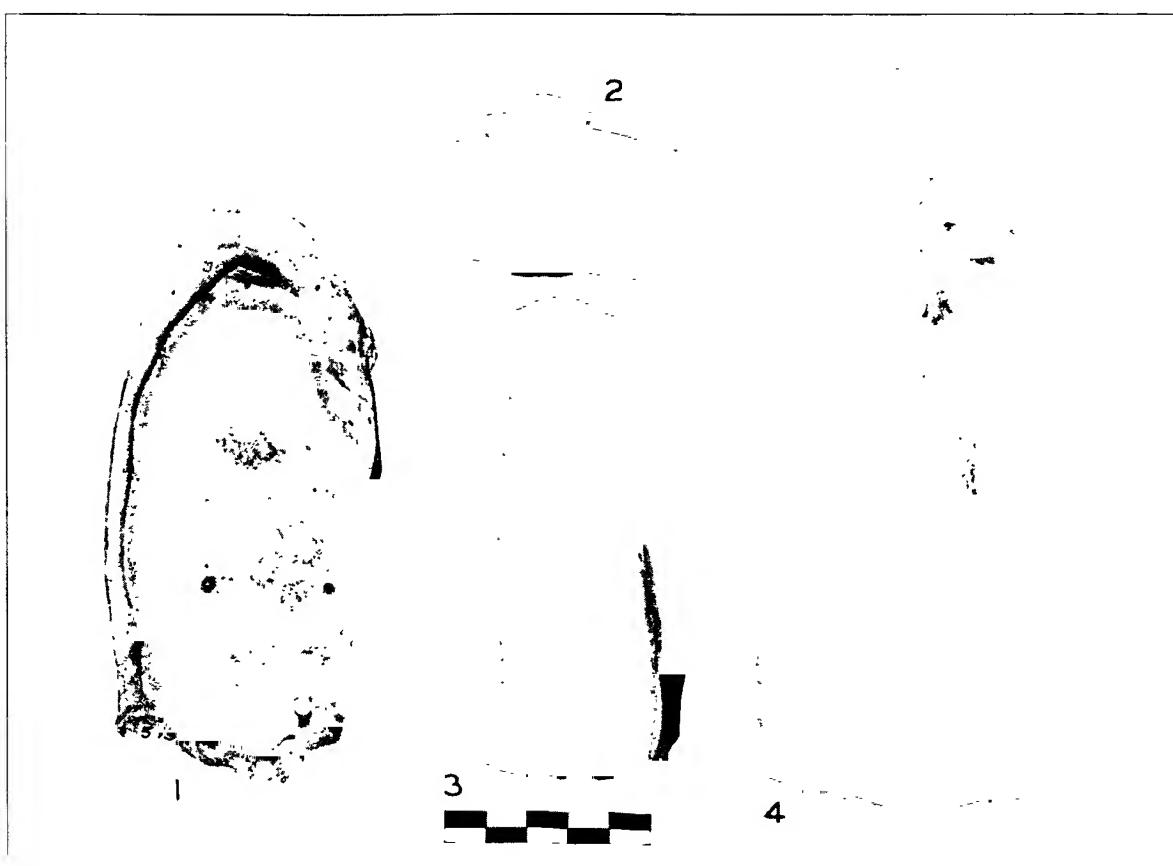
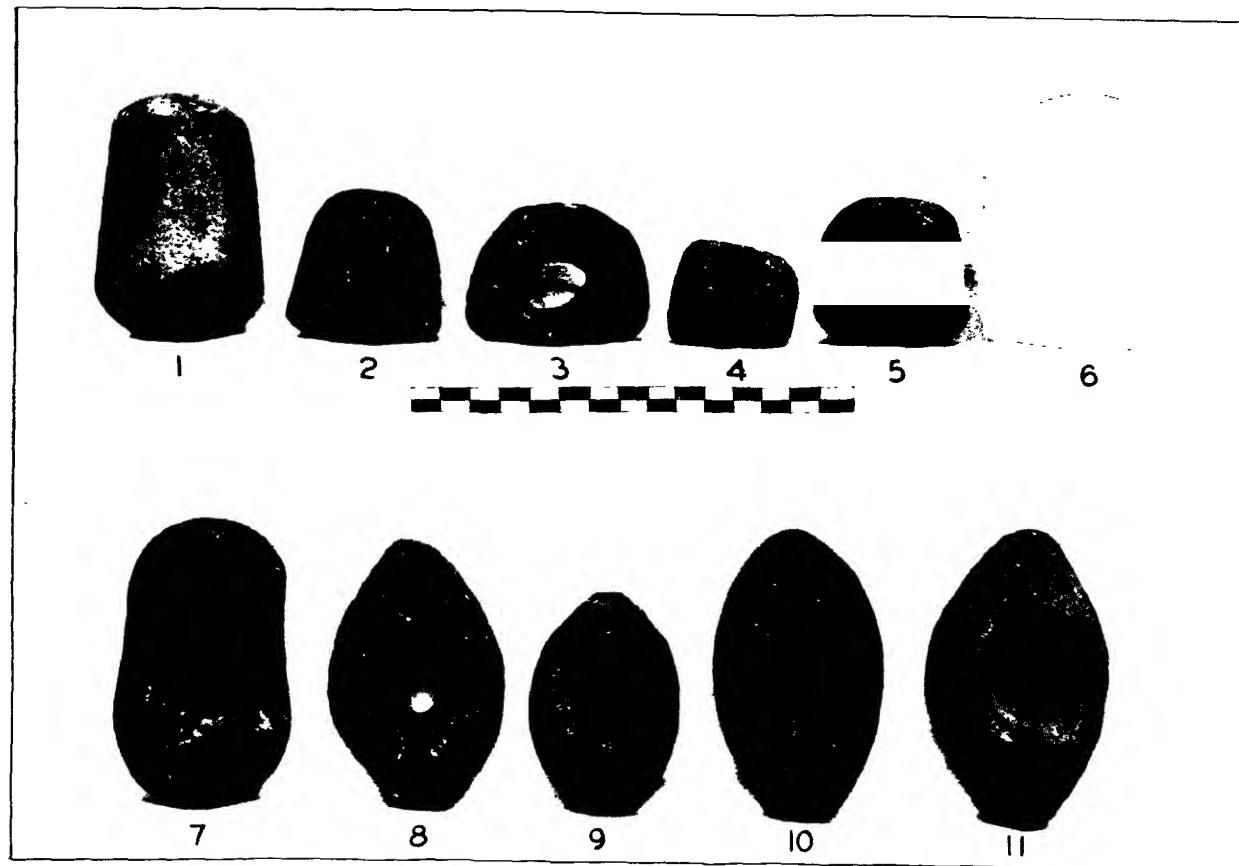
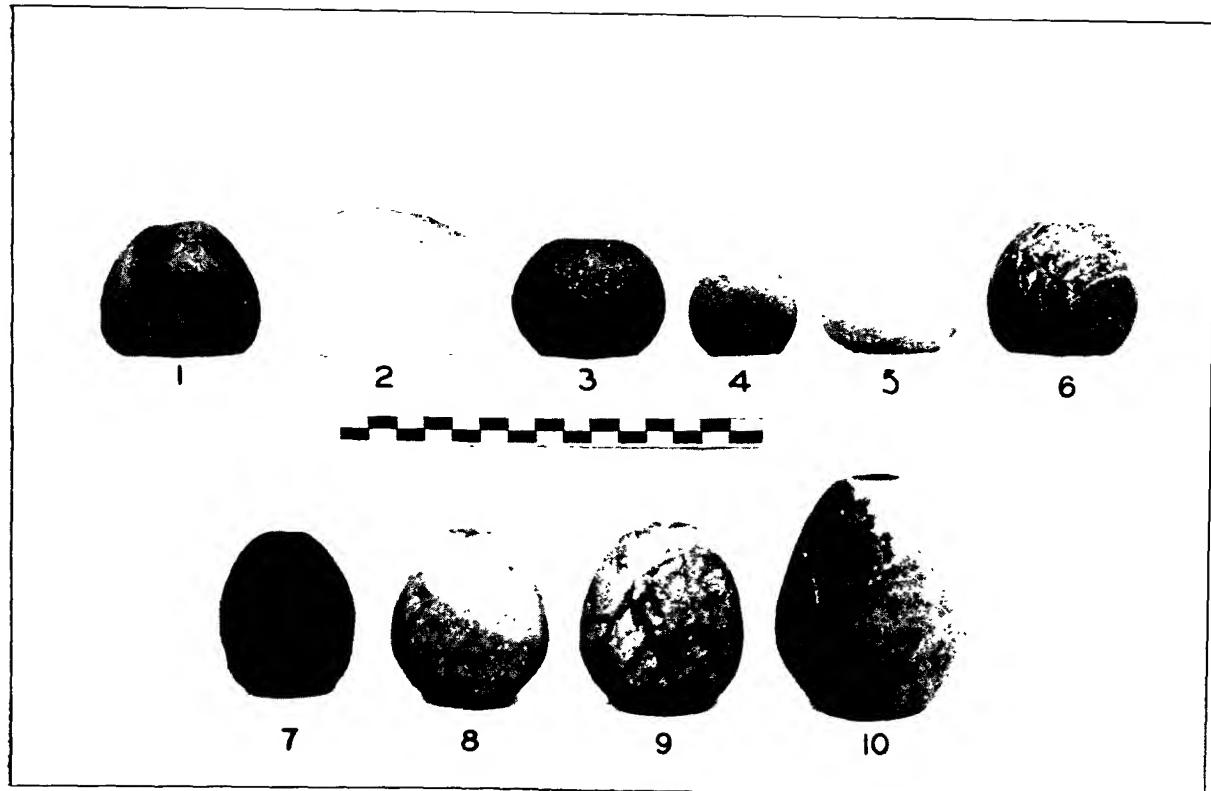


PLATE XXXIX

a Selected Celts

b Flint and Obsidian Cores

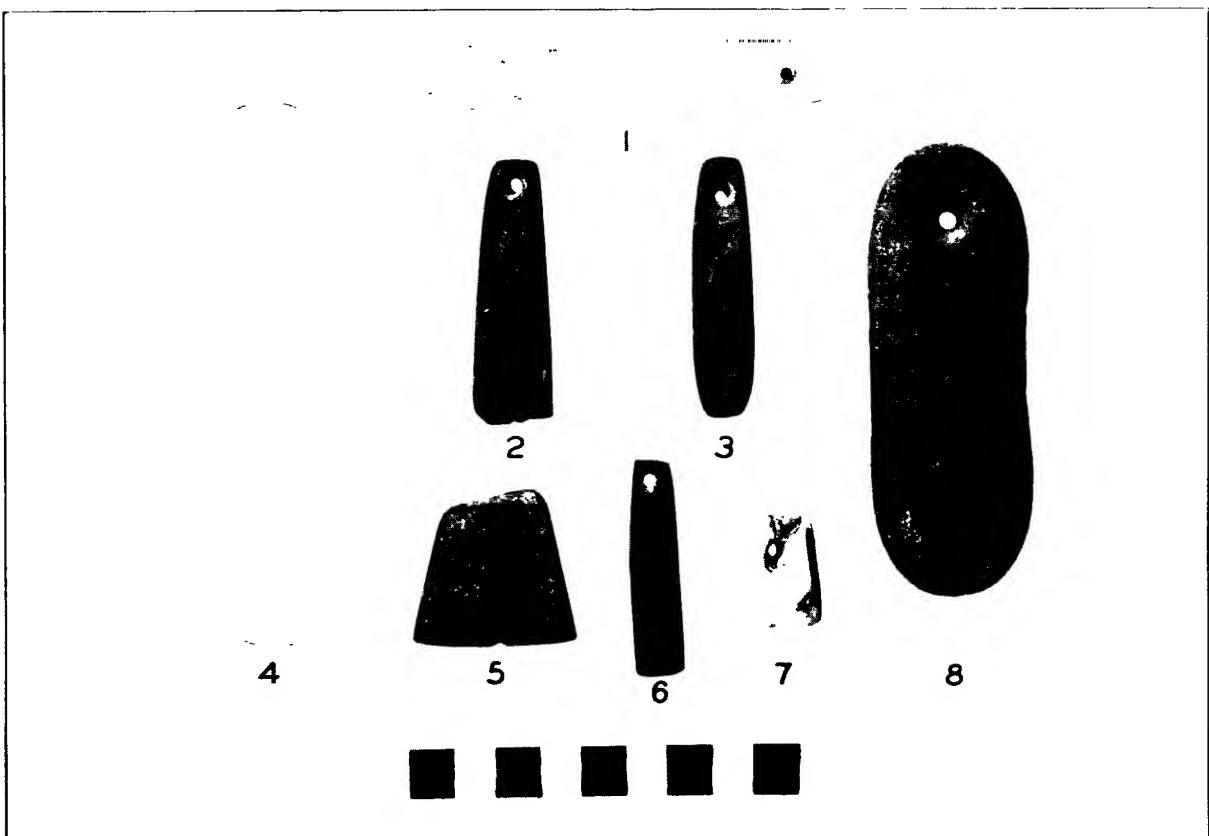


b

PLATE XL

a. Selected Mace-heads

b. Rubbing Stones, Hammers and Battle Axes



a



b

PLATE XLI
a-b Selected Stone Implements

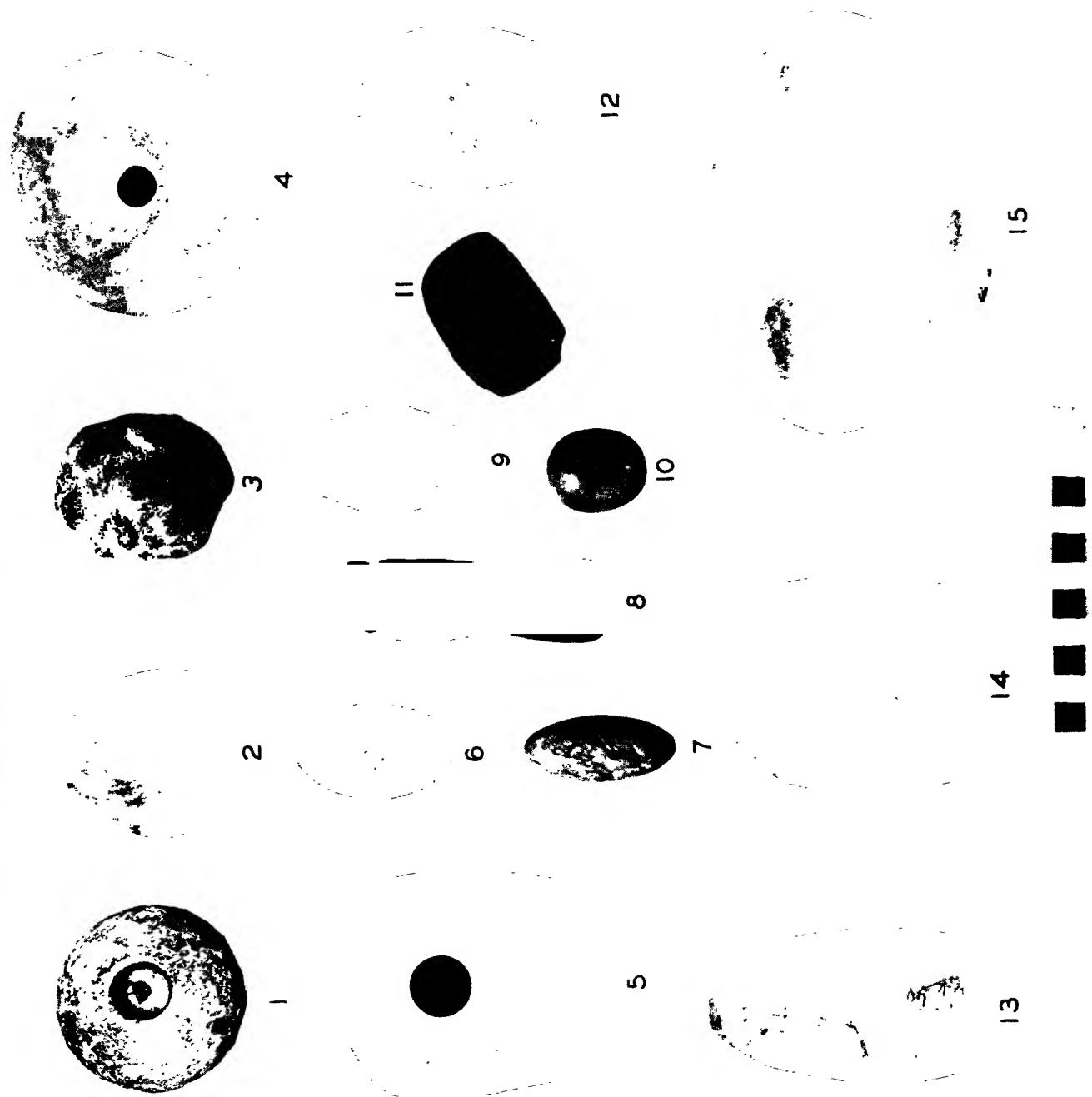


PLATE XLII
Selected Stone Implements and Weapons

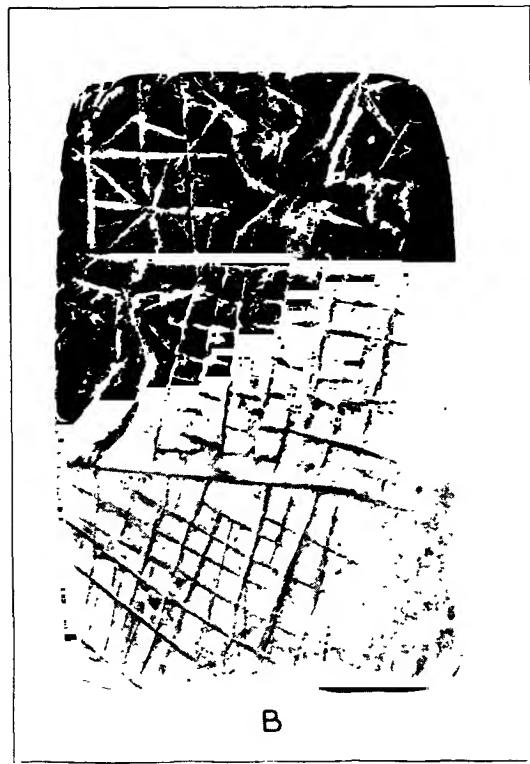
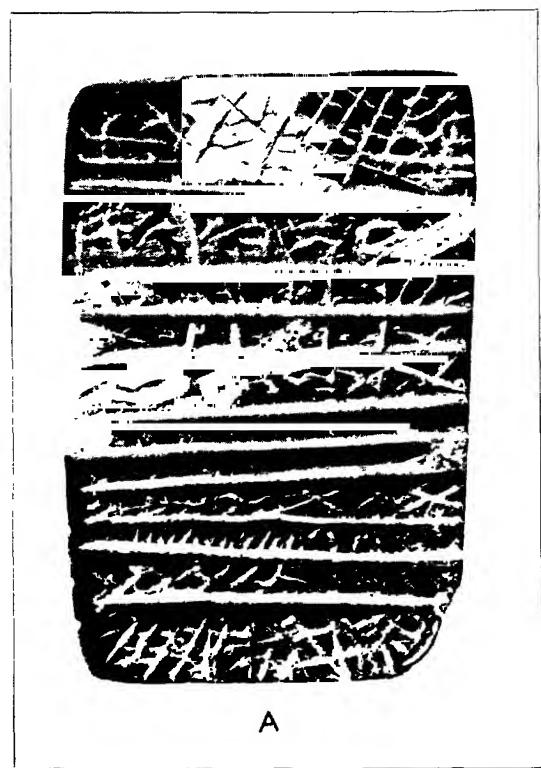
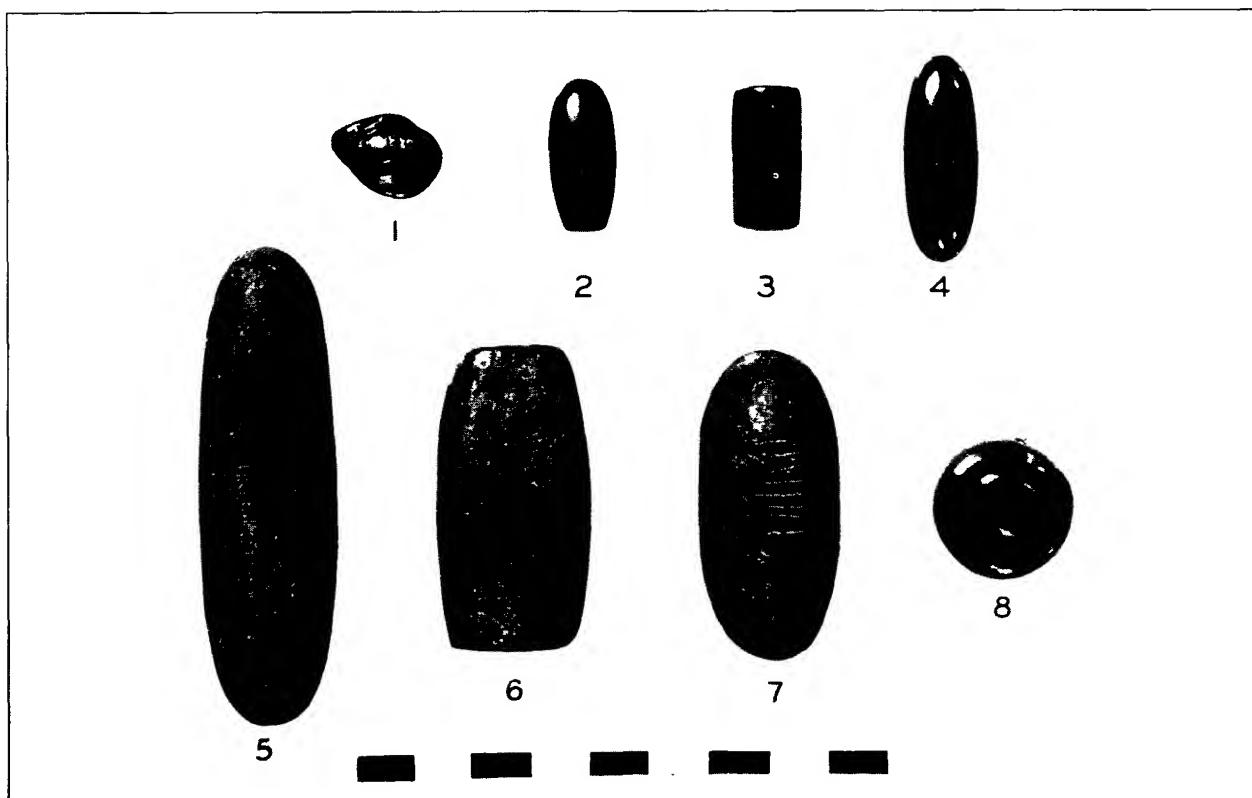


PLATE XLIII

a Scale Weights *b* Diorite Tablets from Trial Trench, Unstratified (enlarged)

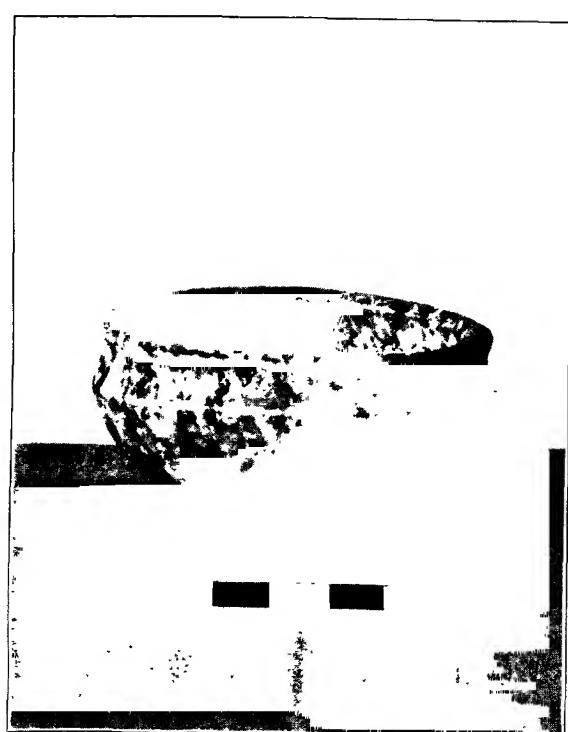
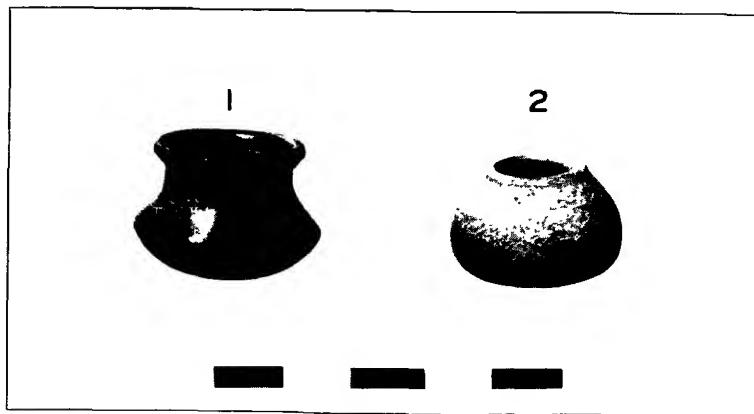
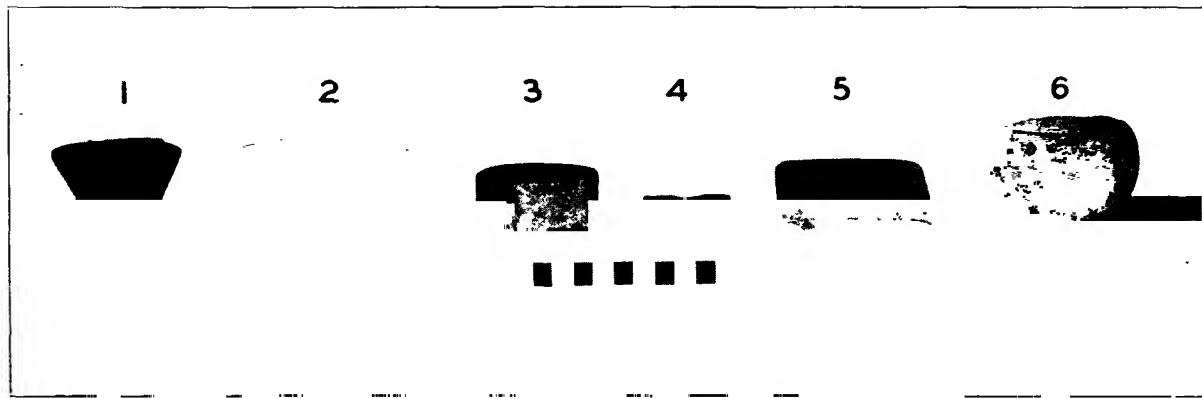


PLATE XLIV

- a. Stone Palettes and Paint Mortars
- b. Model Vessels of Stone (No. 1) and Pottery (No. 2)
- c. "Hut Symbol," probably from Stratum IX
- d. Marble Bowl from Trial Trench, Unstratified

b

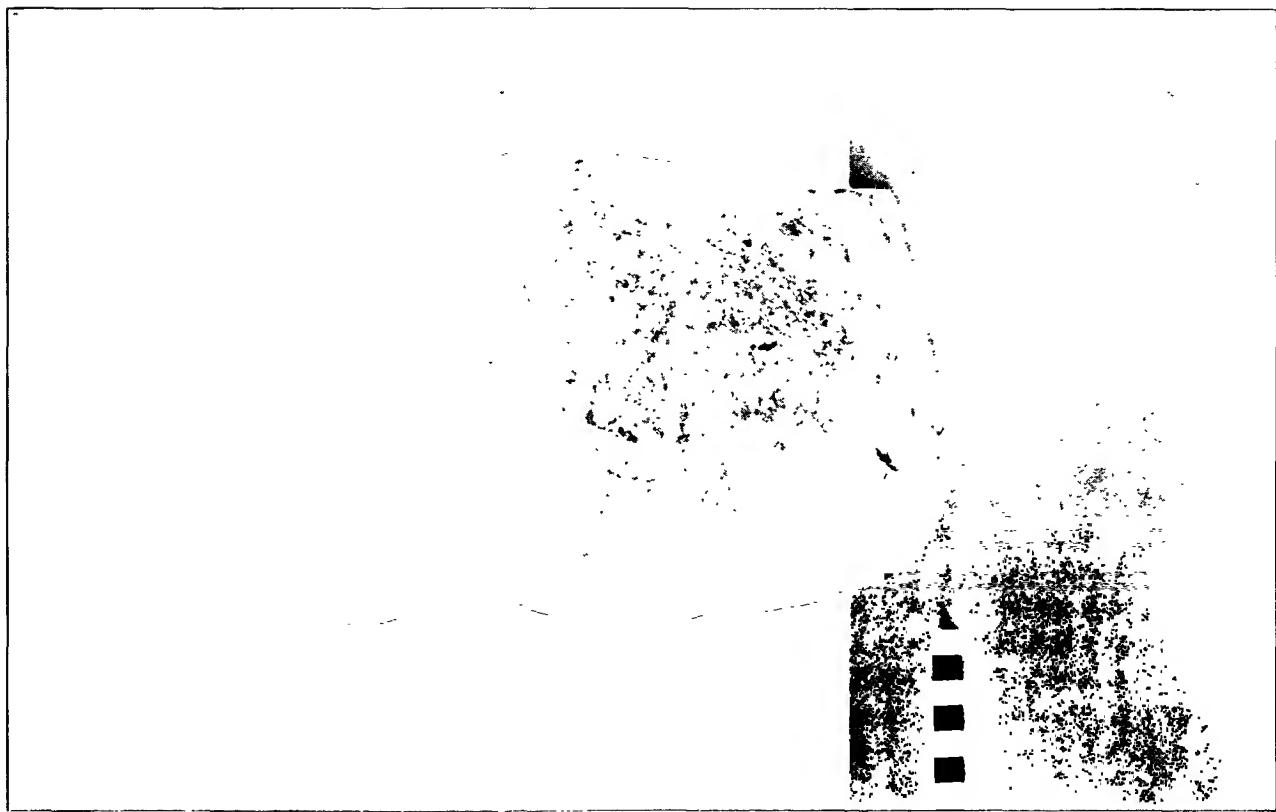


PLATE XLV

a Limestone Statuette from Stratum *III* *b* Mortar and Pestle from Stratum *IV*

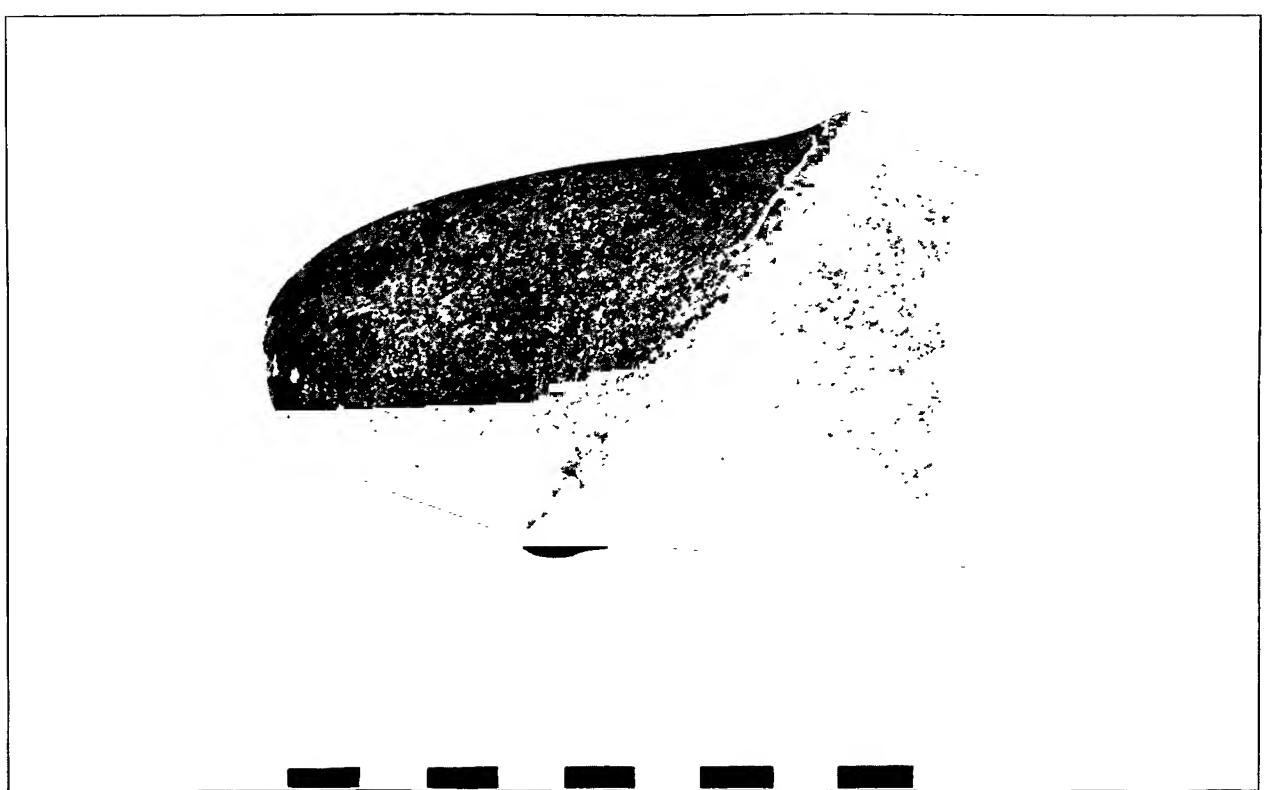
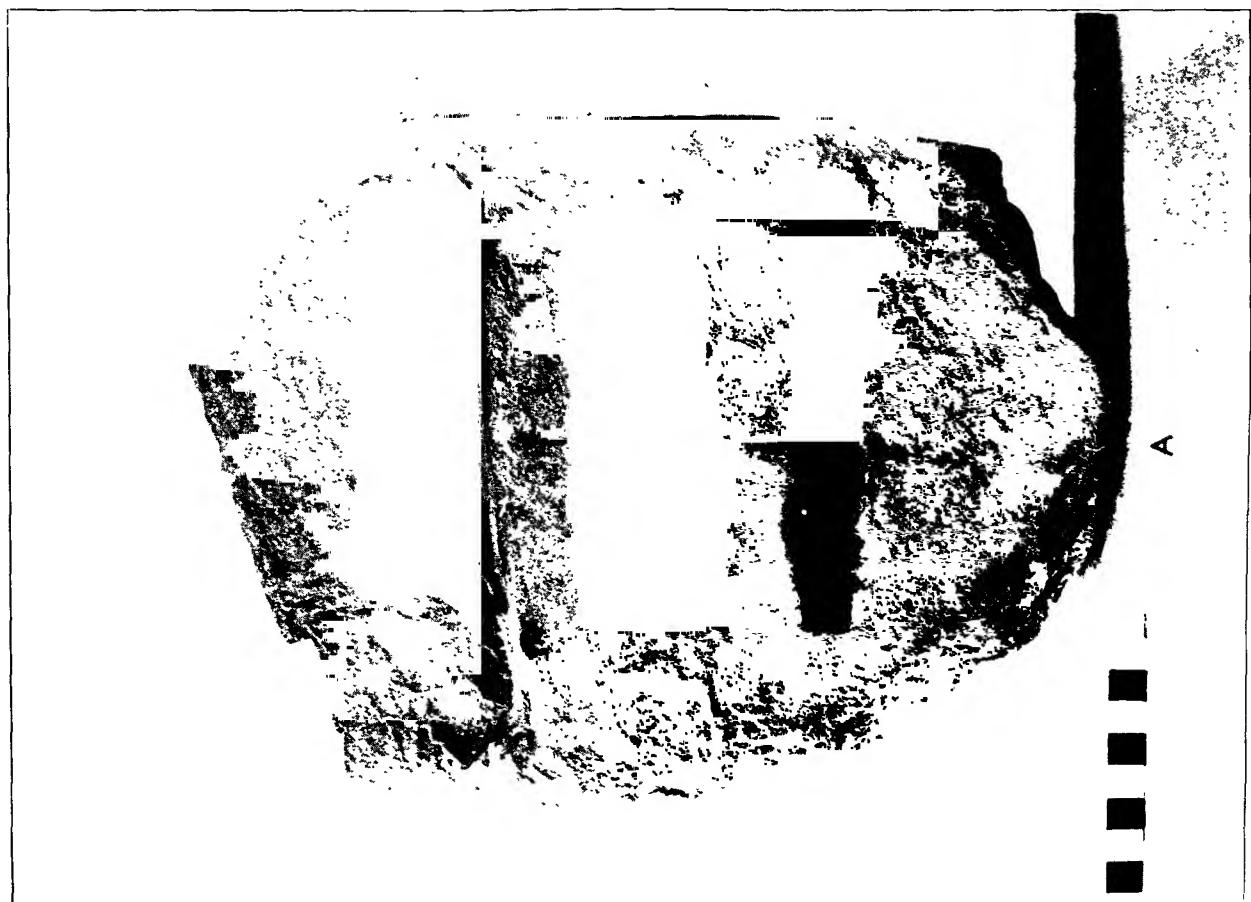
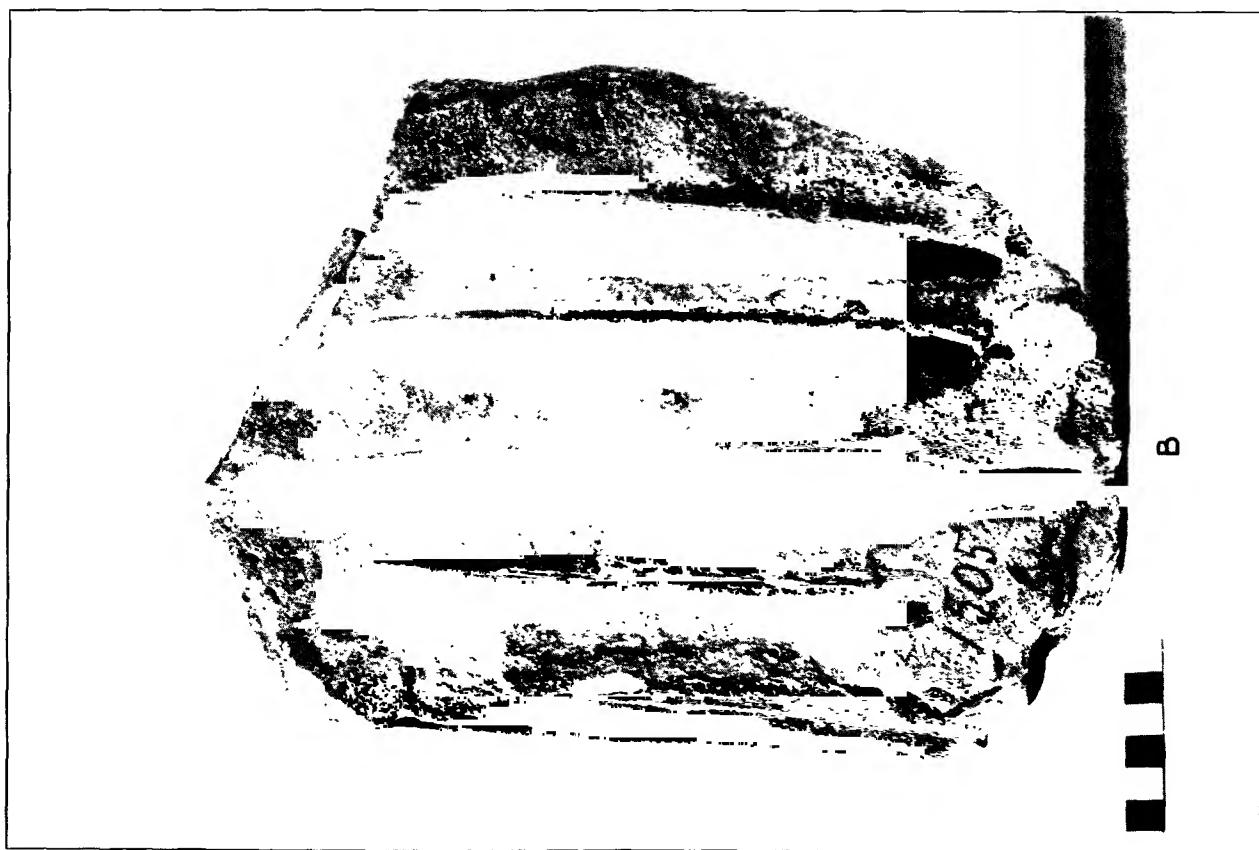


PLATE XLVI

a. Marble Stand from Stratum VI

b. Phallic Object of gabbro from Eastern Temple, Stratum VIII-A

PLATE XLVII
Sandstone Mould for Casting Copper Objects, Stratum I'



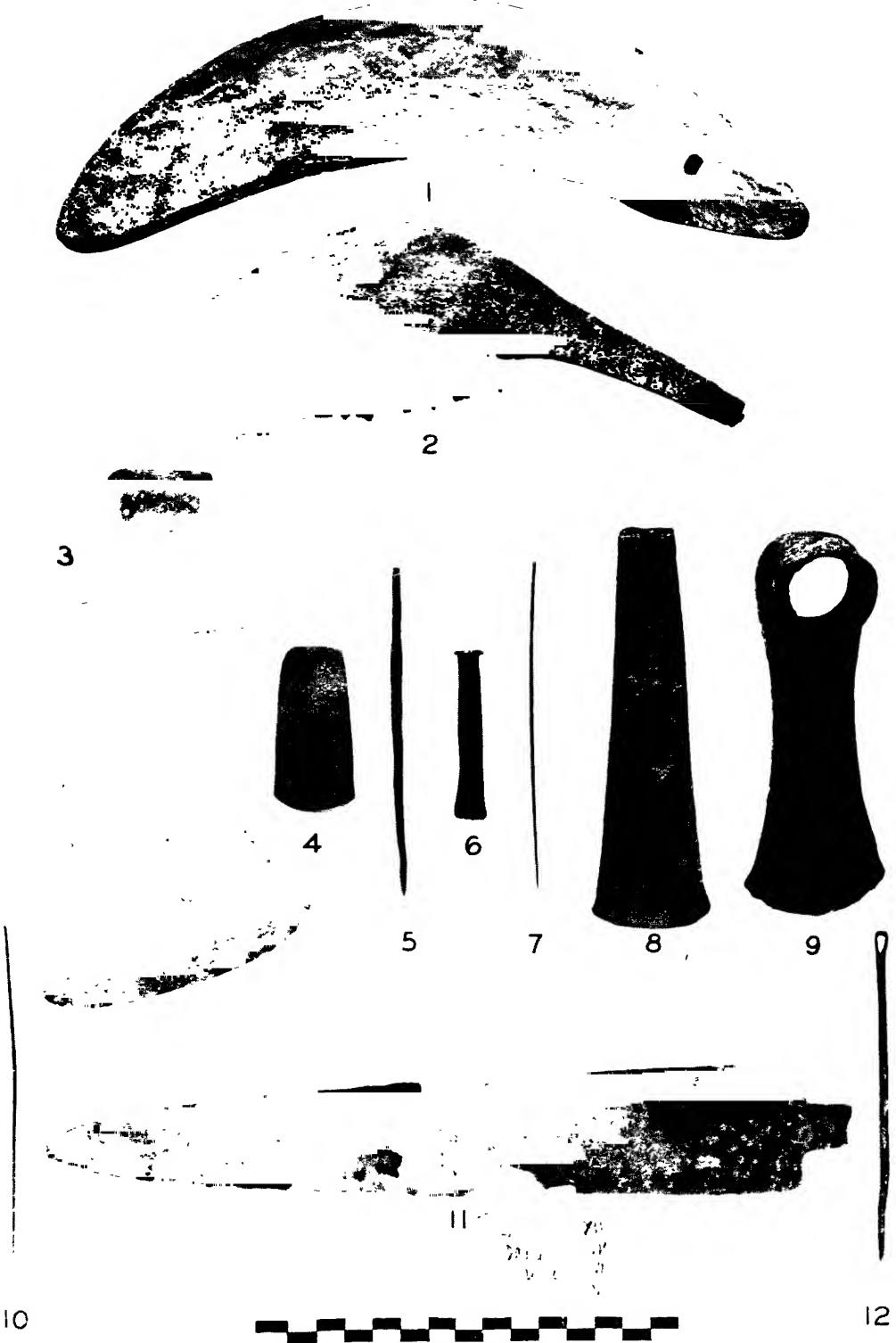


PLATE XLVIII
Selected Copper Implements

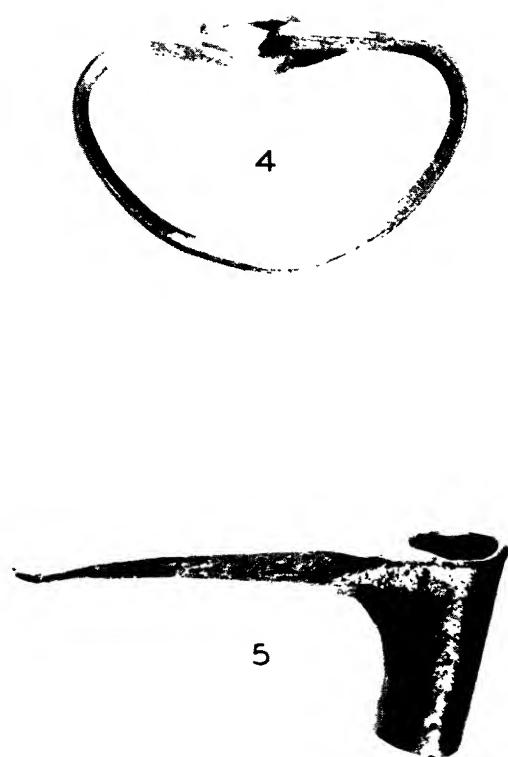
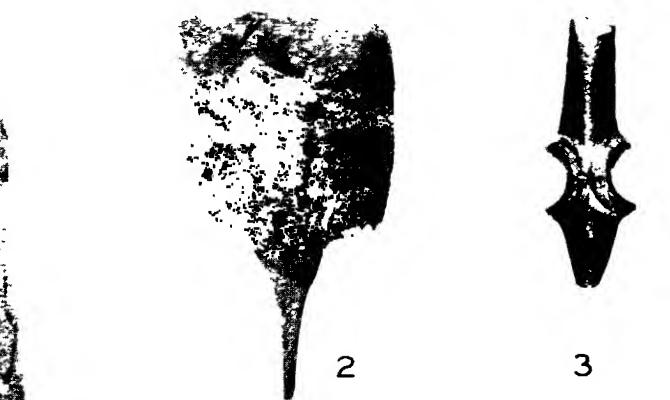


PLATE XLIX
Selected Copper Objects from Stratum VI

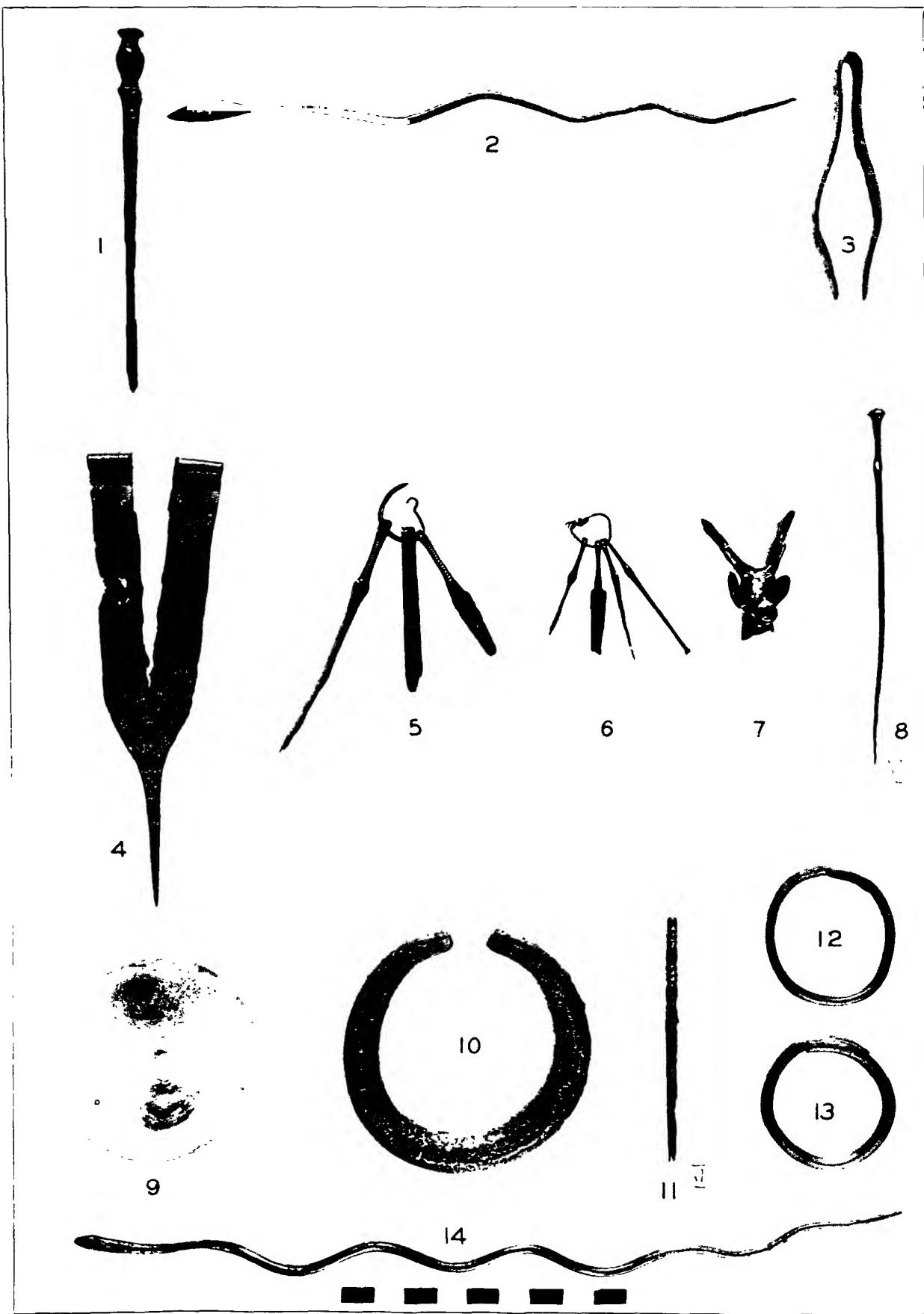


PLATE L
Selected Copper Ornaments and Implements

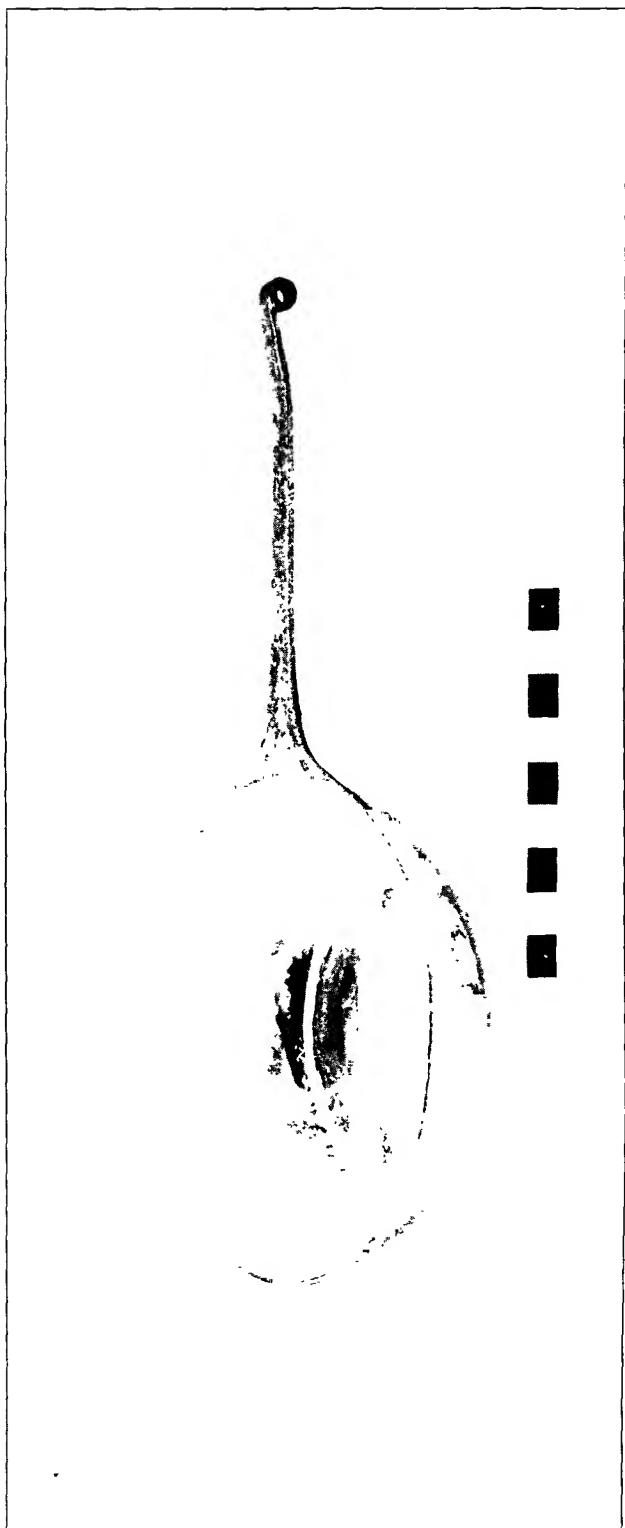
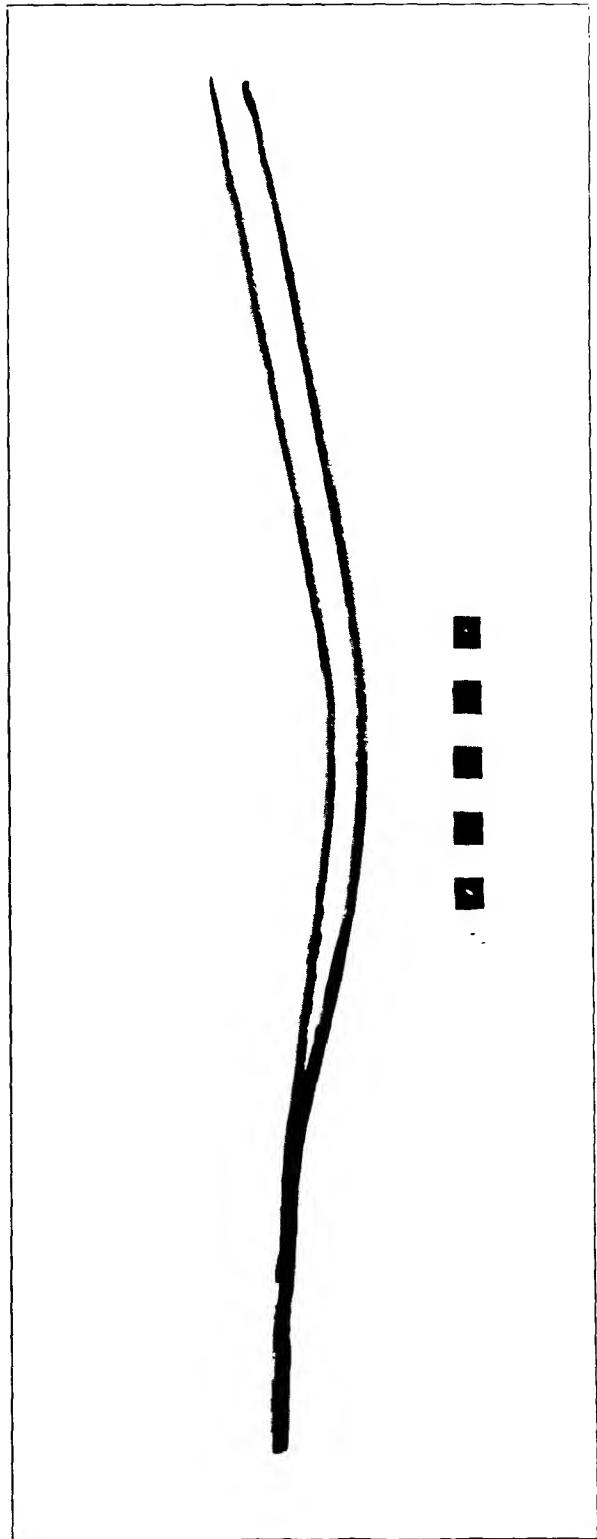
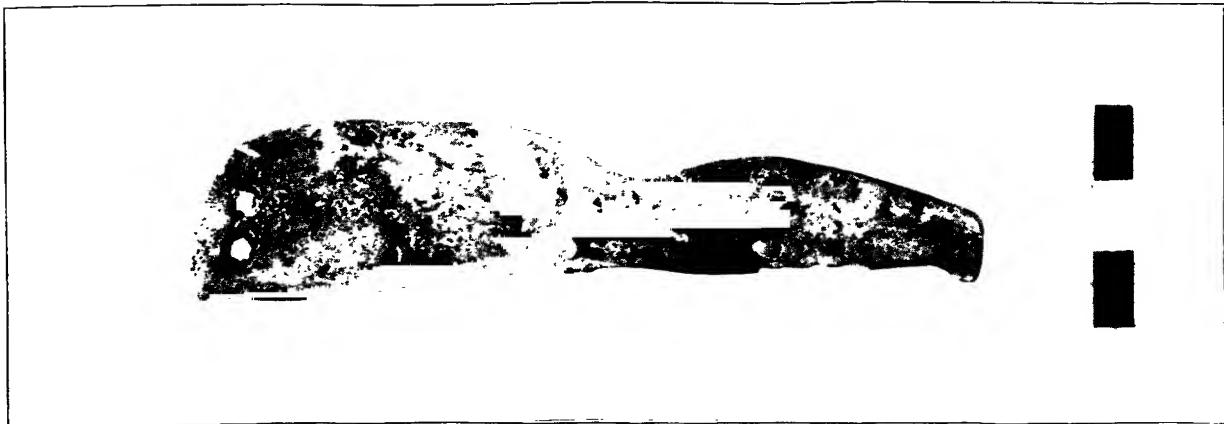
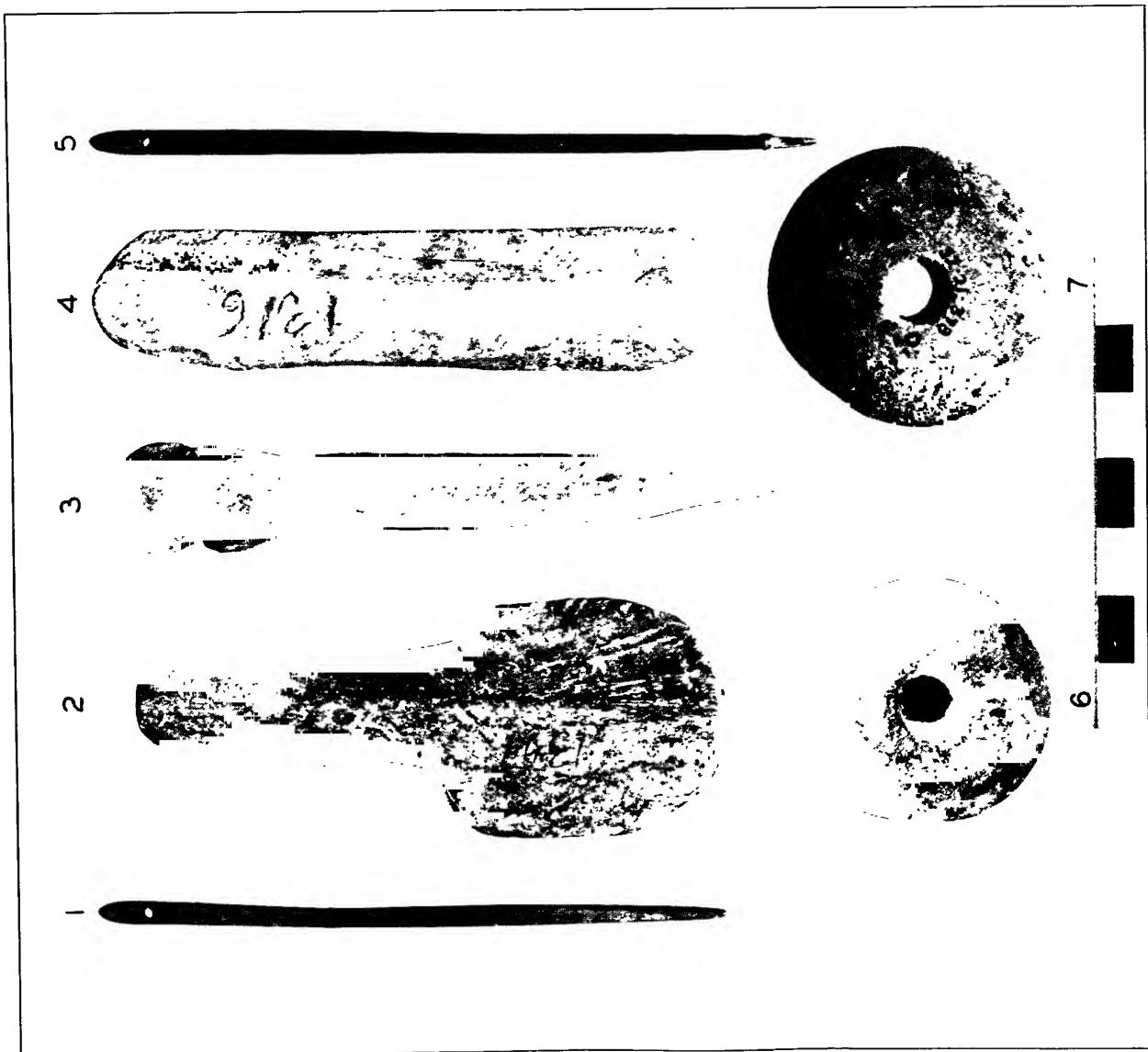
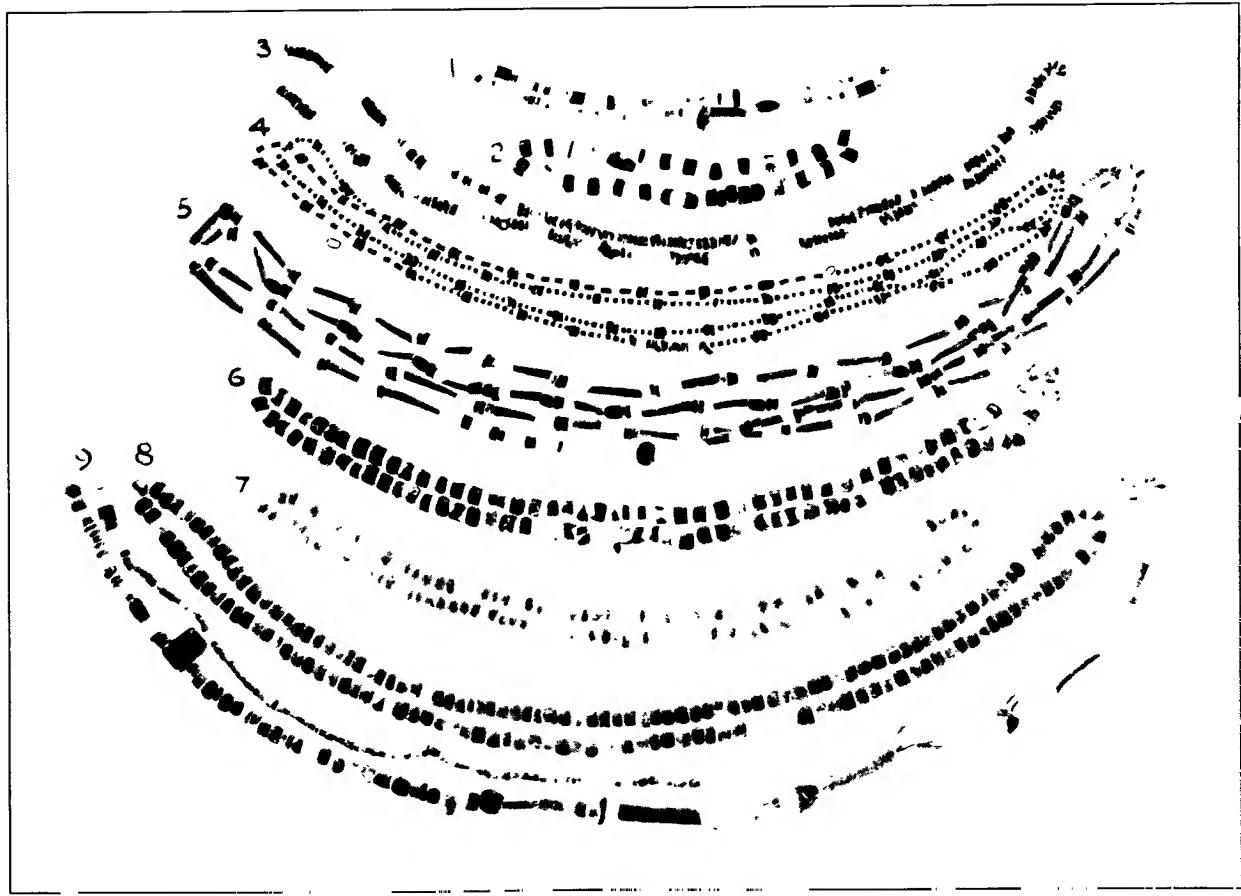


PLATE LI

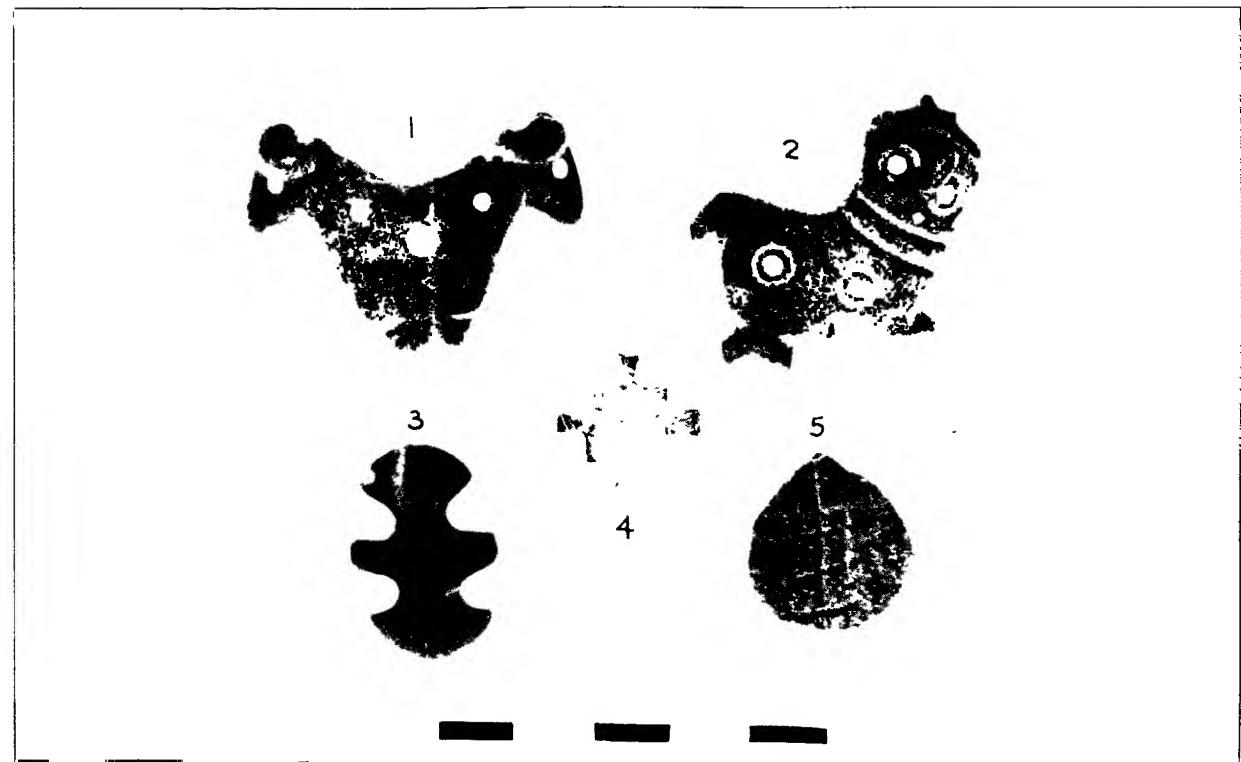
a. Copper tongs from Stratum VI *b* Copper "Frying Pan" from Stratum VI

PLATE LII
a. Bone Object with Turquoise Inlays, Stratum VII
b. Selected Bone Objects





a



b

PLATE LIII

- a Selected Beads from Stratum VII
b Stone Amulets (Nos. 1-3), Shell Inlay (No. 4)
and Pottery Pendant (No. 5)

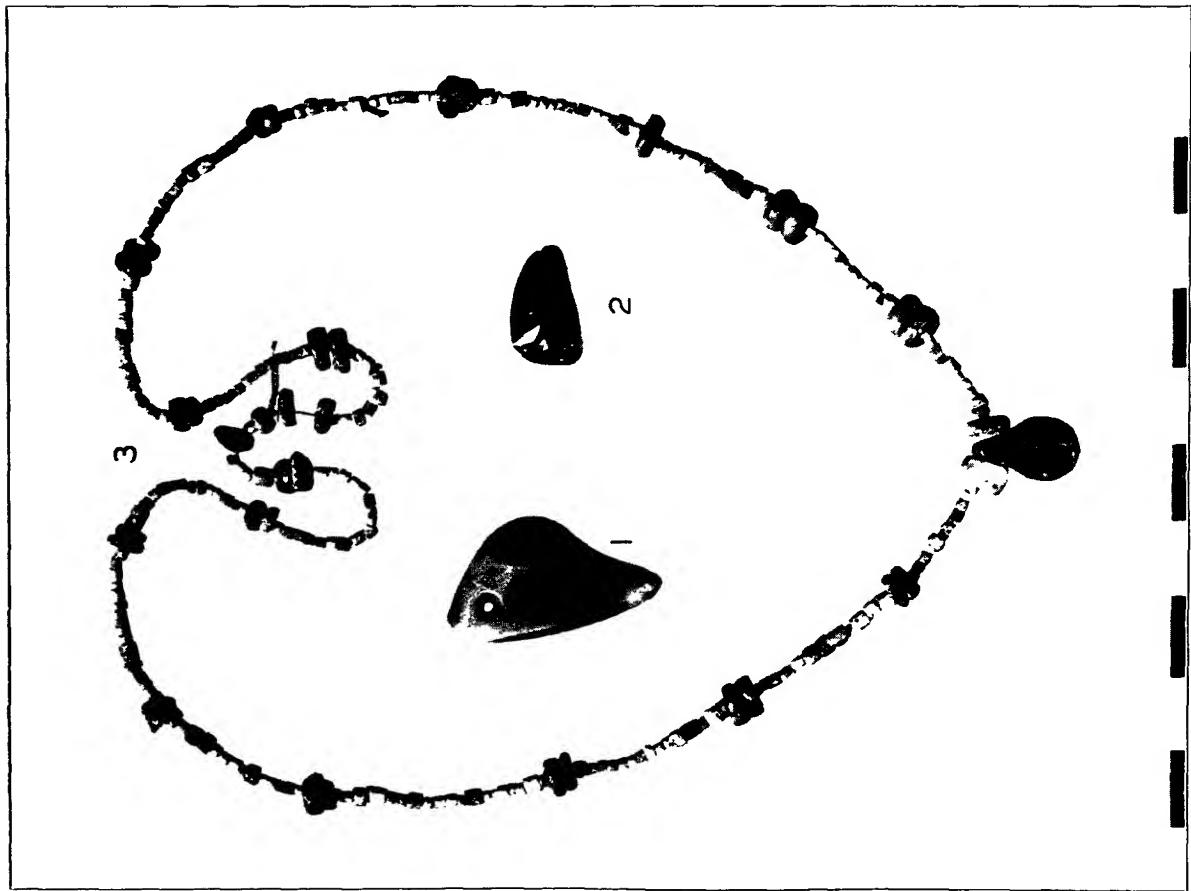
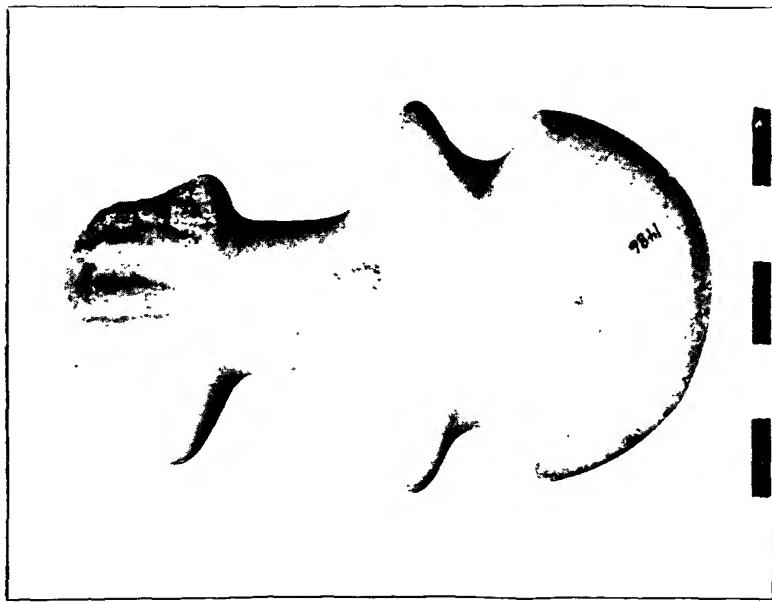
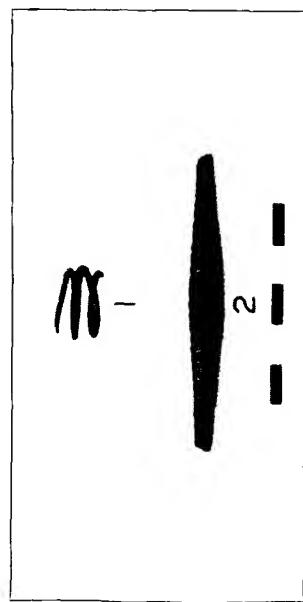


PLATE LIV

a. Marble Mother Goddess Figurine from Stratum IV
b. Gold Ornaments
c. Beads and Amulets from Stratum VII



b



c



a



b

PLATE LV

- a* Ivory from Stratum VIII
b Seal Impression on Clay from Stratum VIII

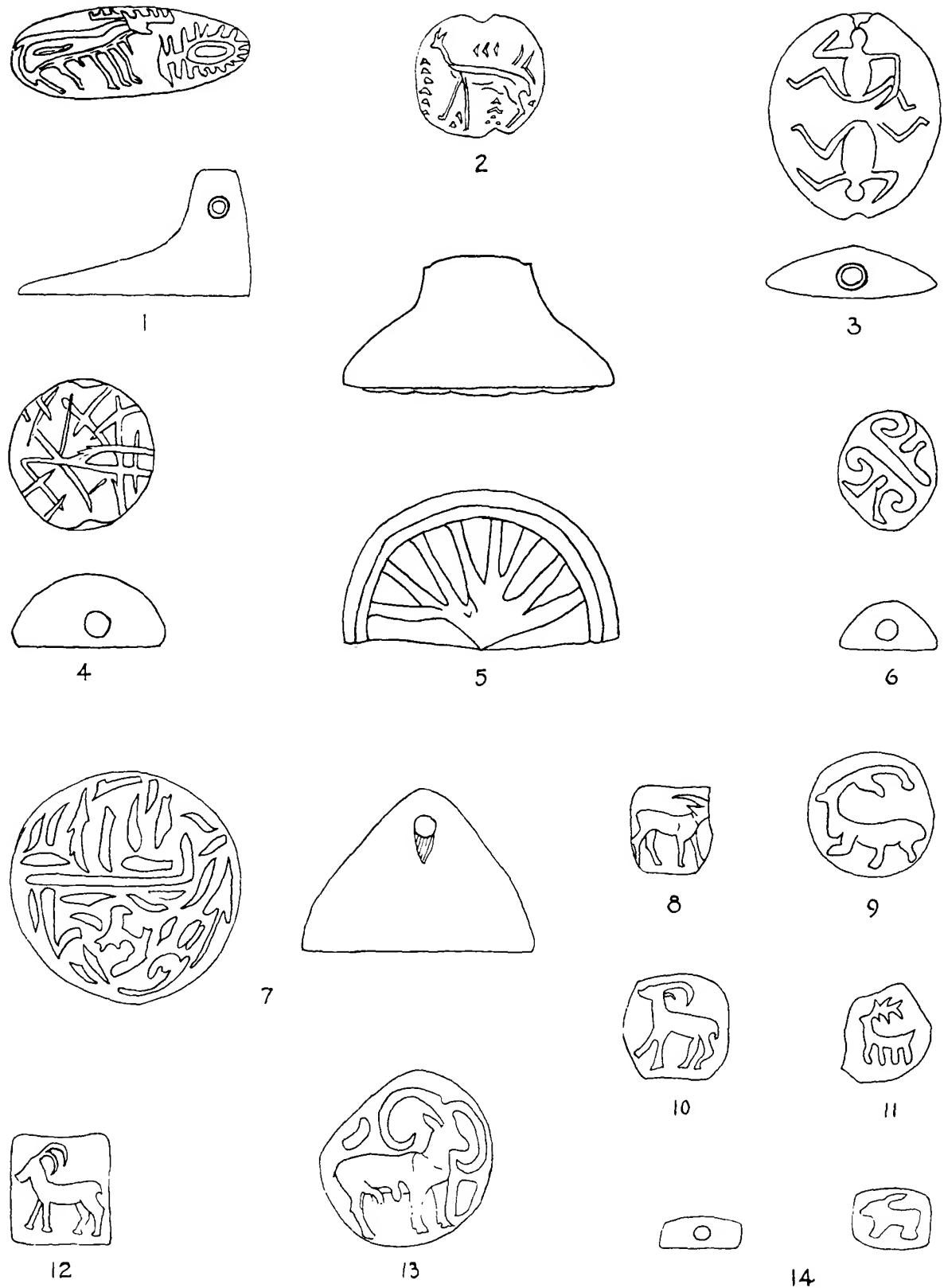


PLATE LVI
Stamp Seals and Seal Impressions
(Scale 1/1)

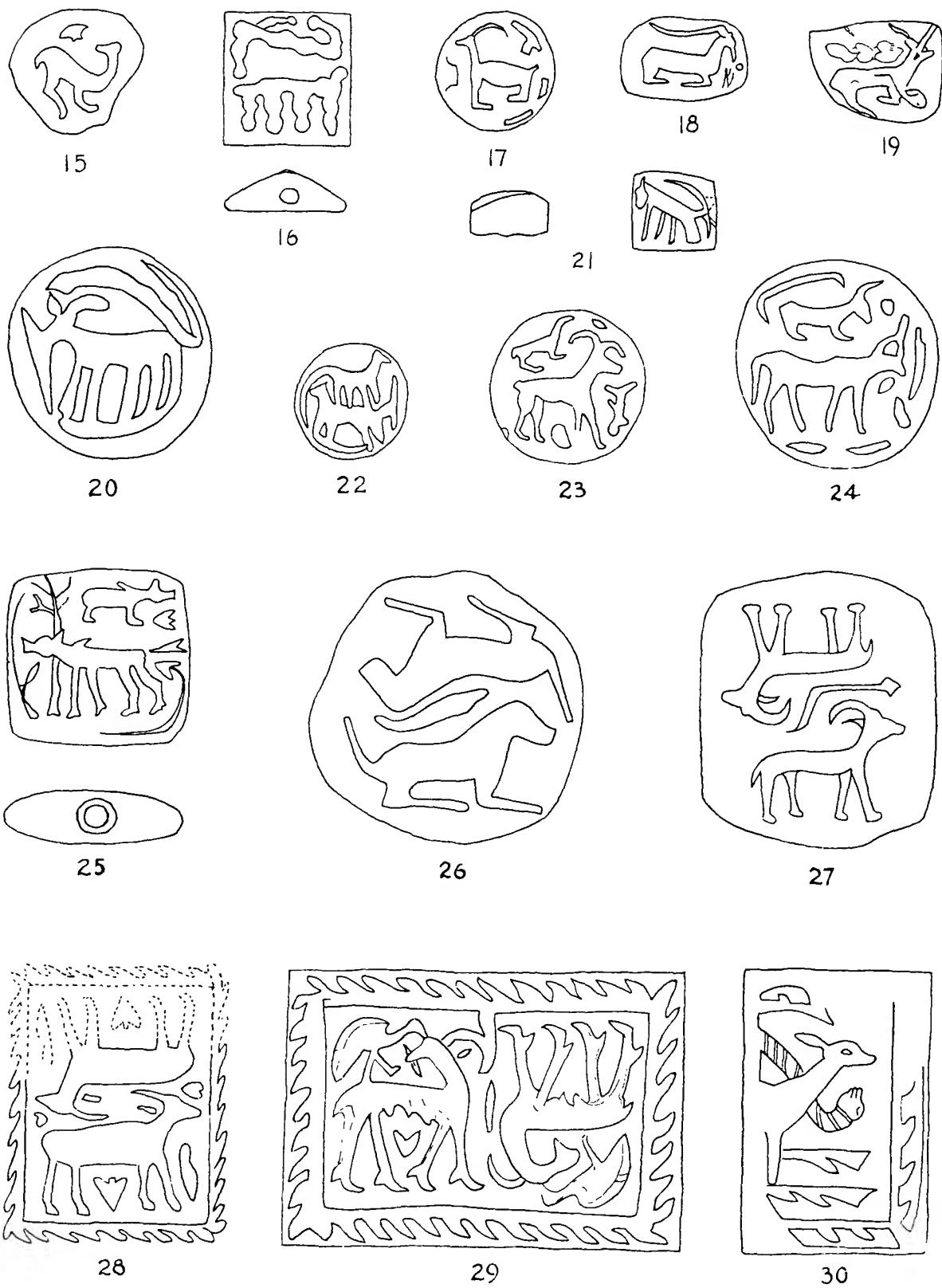
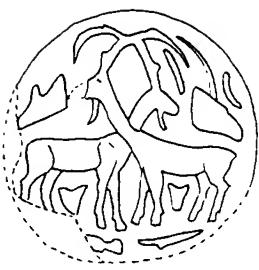
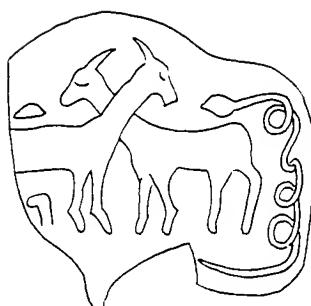


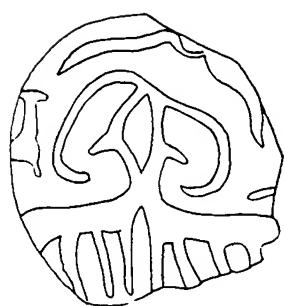
PLATE LVII
Stamp Seals and Seal Impressions
(Scale 1/1)



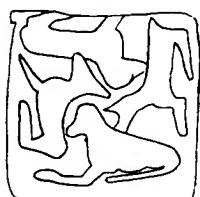
31



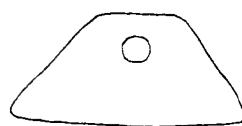
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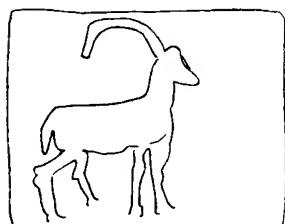
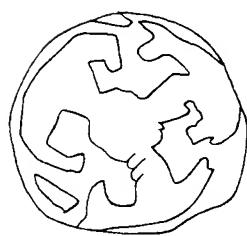
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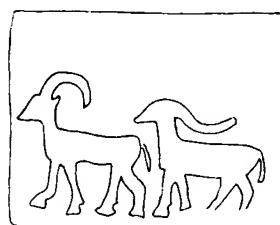
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35



36



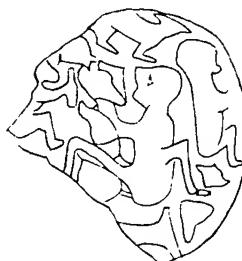
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38



39



40



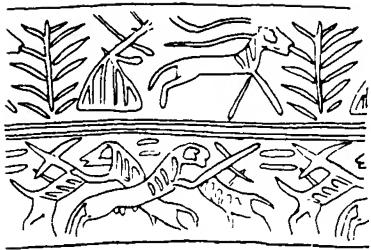
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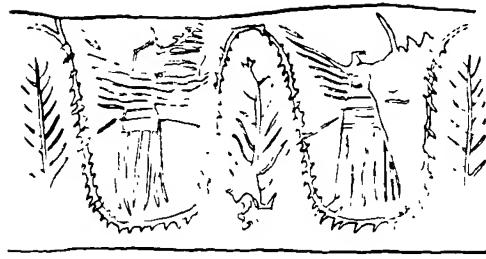
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PLATE LVIII

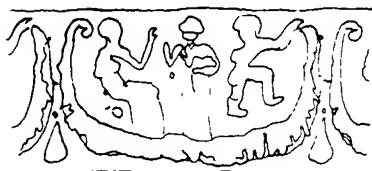
Stamp Seals, Seal Impressions and Fragment of Cylinder Seal (No. 42)
(Scale 1/1)



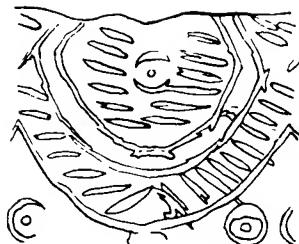
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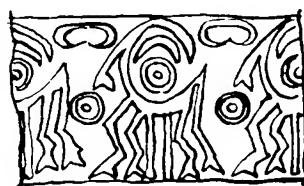
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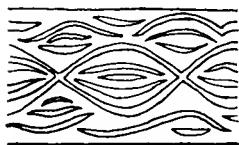
45



46



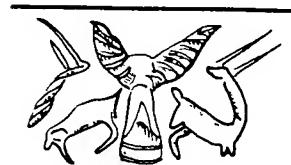
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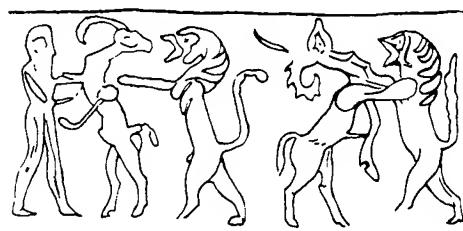
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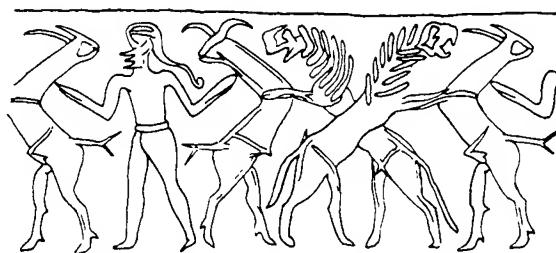
49



50



53



51

PLATE LIX

Cylinder Seals

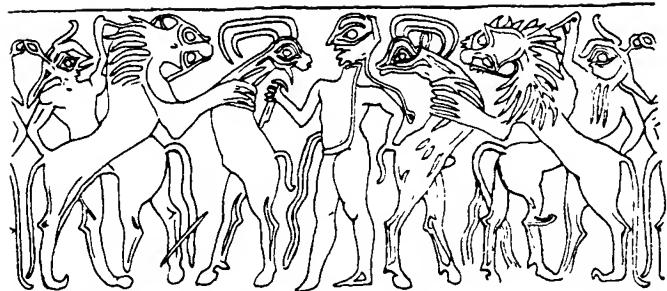
(Scale 1:1)



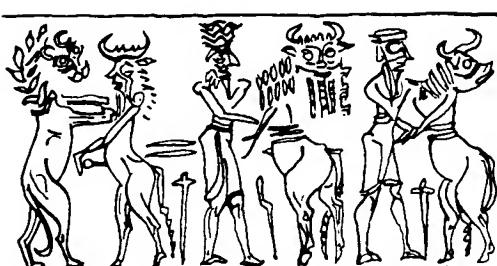
54



55



52



56



57



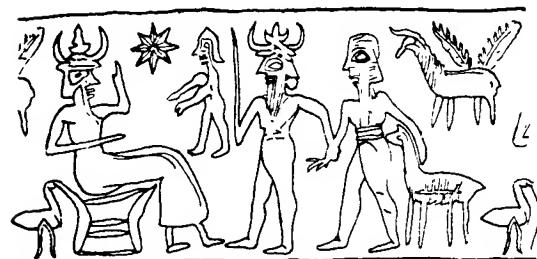
58



59



60



61



62

PLATE LX

Cylinder Seals

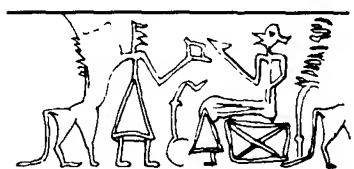
(Scale 1/1)



63



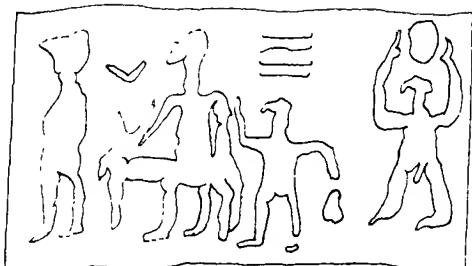
64



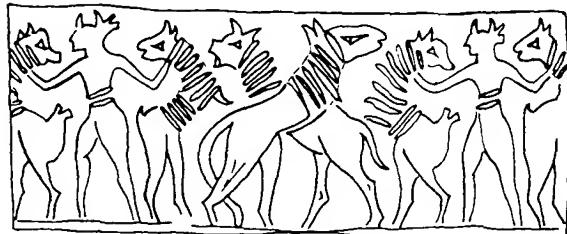
65



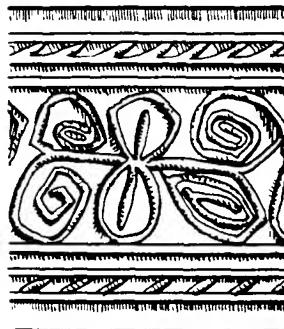
66



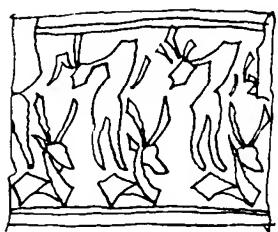
67



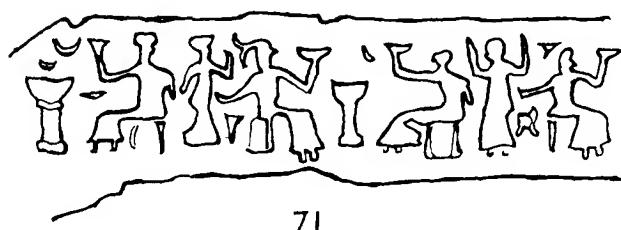
68



69



70



71

PLATE LXI

Cylinder Seals and Seal Impression (No. 72)
(Scale 1/1)

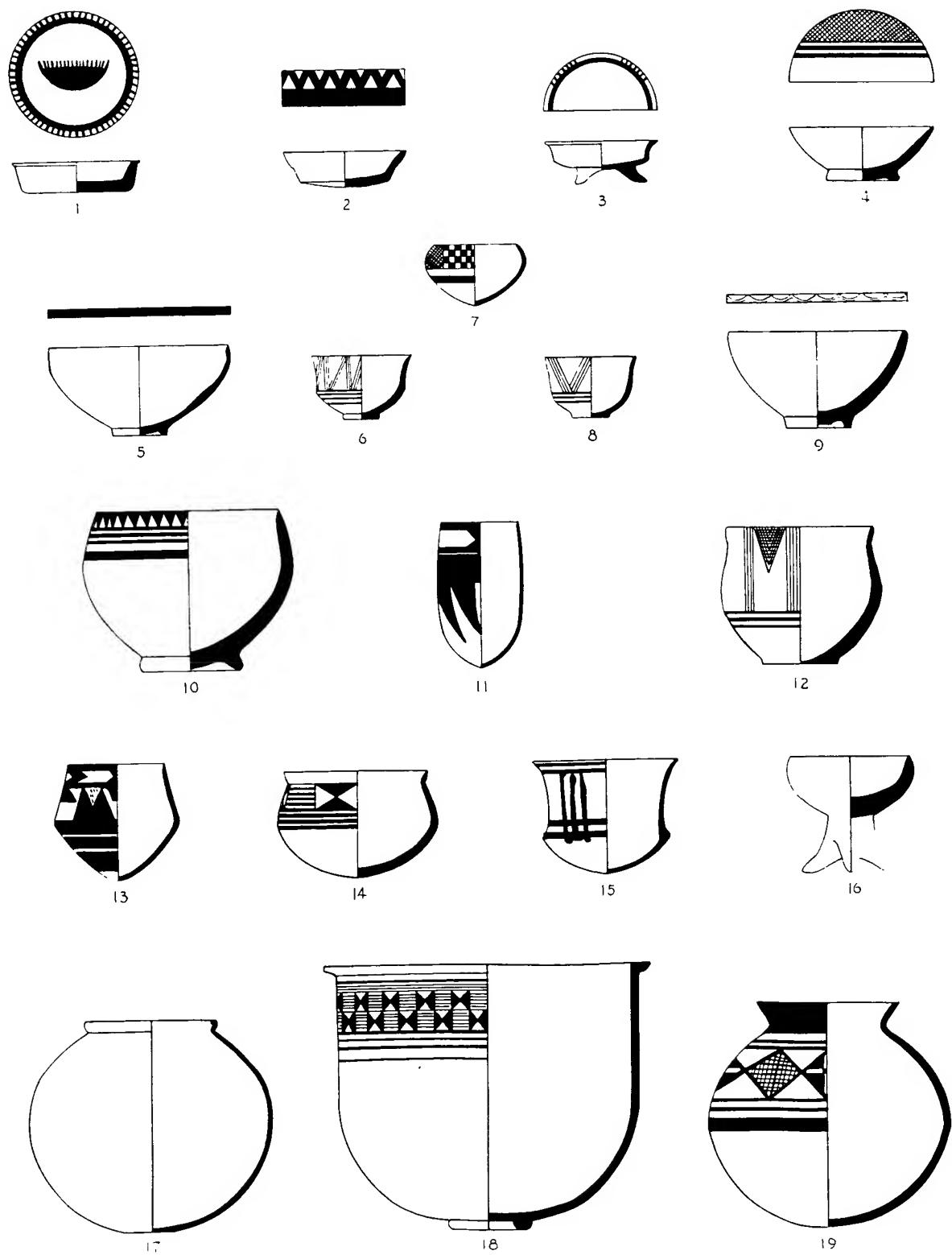


PLATE LXII
Trial Trench Pottery from Levels Preceding Stratum *VIIi*
(Scale 1/5, Figs. 5, 9, 17-19—1/10)

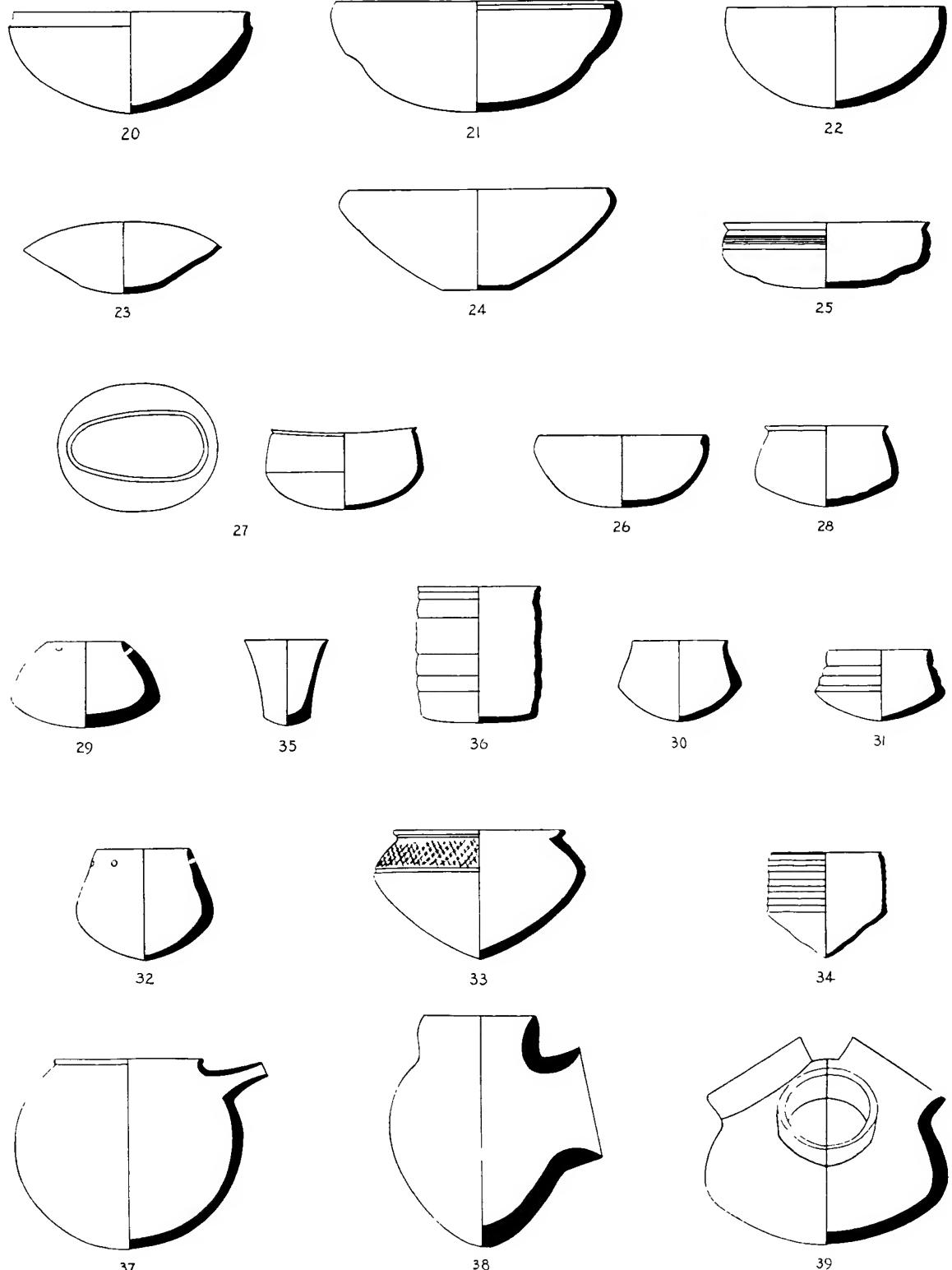


PLATE LXIII

Pottery from Stratum *VIII*

(Scale 1/5, Figs. 21, 25, 29, 38-39—2/5, Fig. 26—1/10)

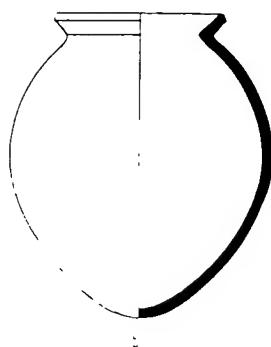
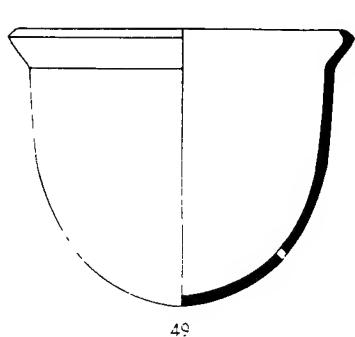
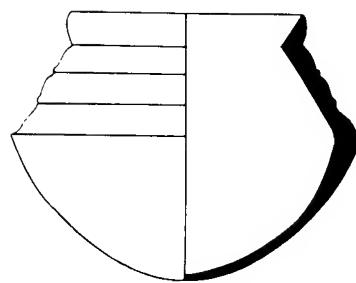
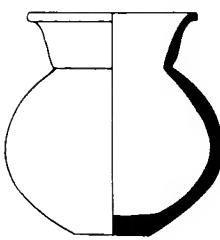
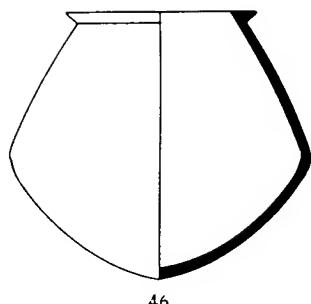
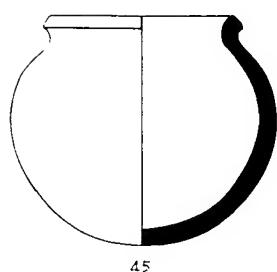
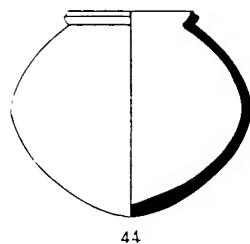
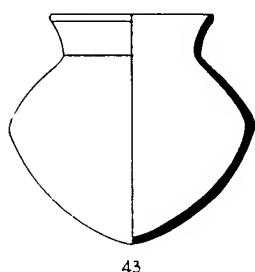
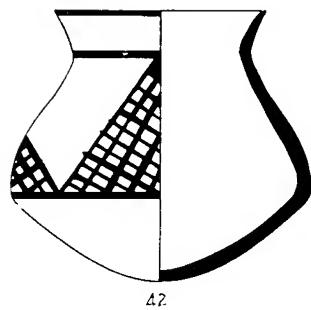
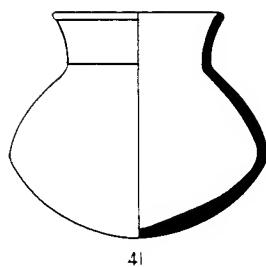
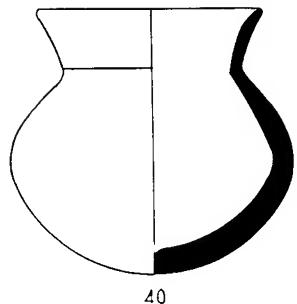
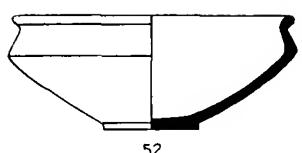
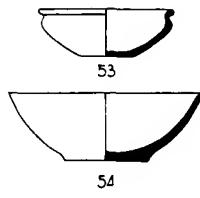


PLATE LXIV

Pottery from Stratum VIII
(Scale 2/5, Figs. 43-45, 1/5, Figs. 49-51—1/10)

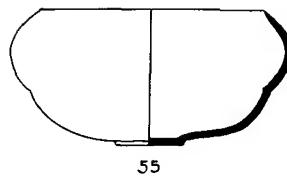


52

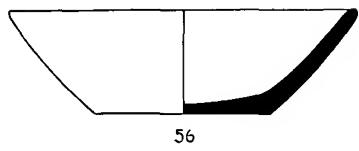


53

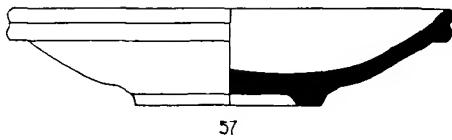
54



55



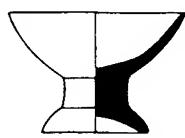
56



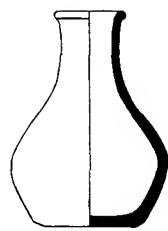
57



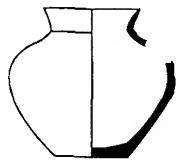
58



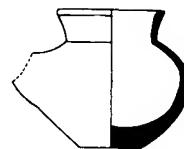
59



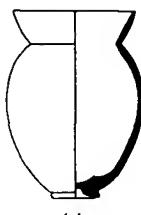
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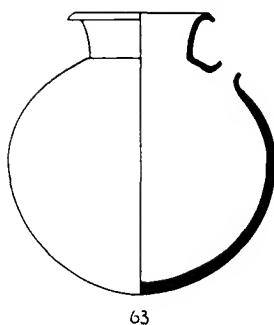
61



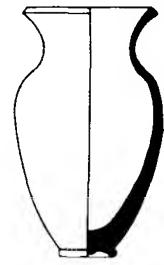
62



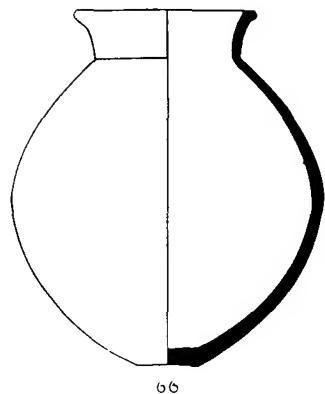
64



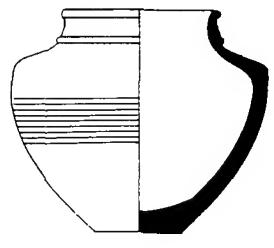
63



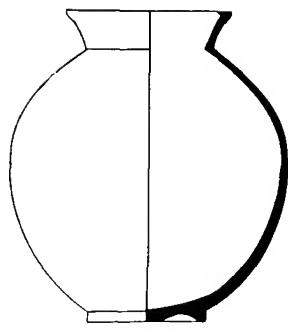
65



66



67



68

PLATE LXV

Pottery from Stratum VII

(Scale 1:5)

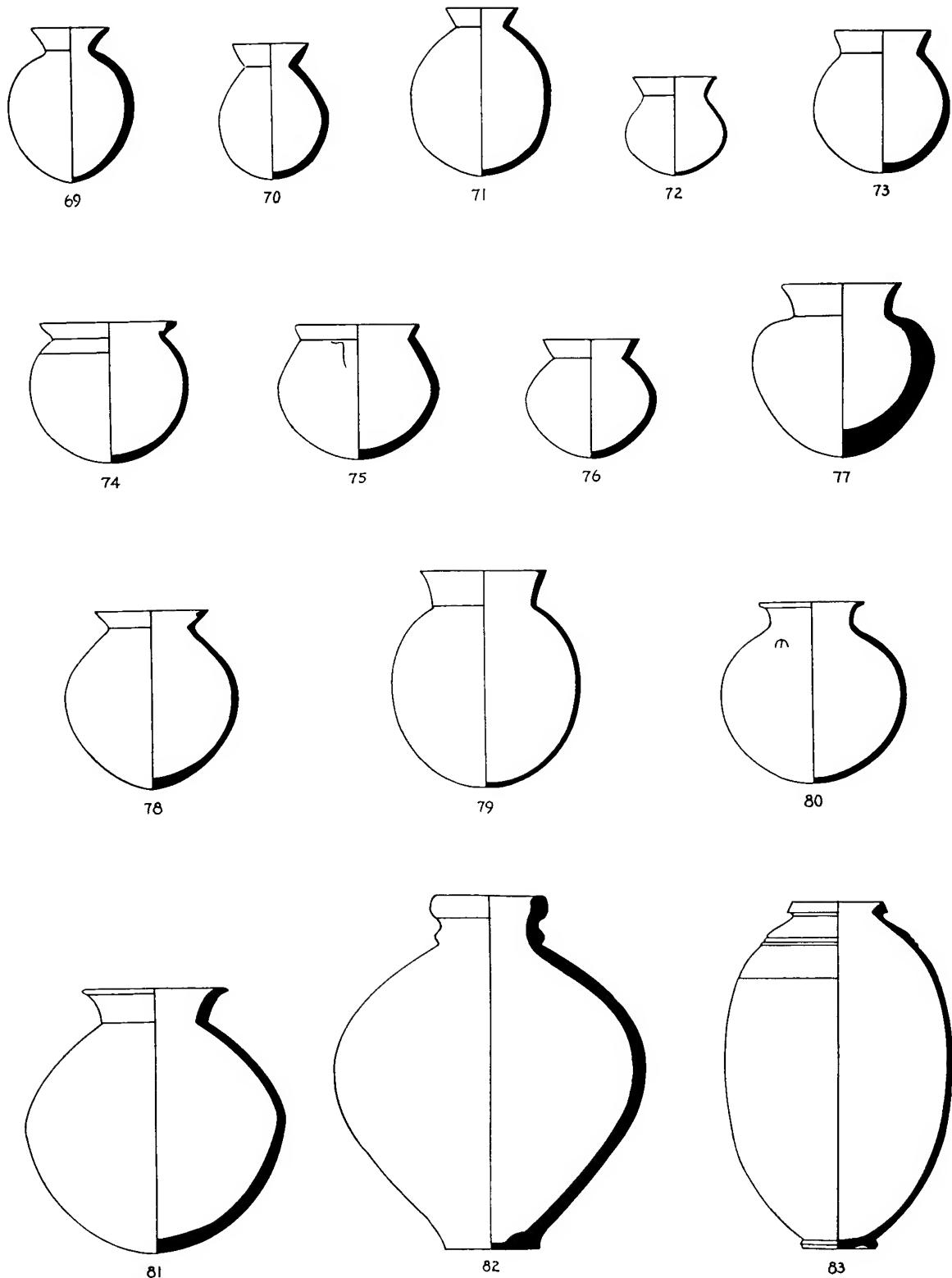
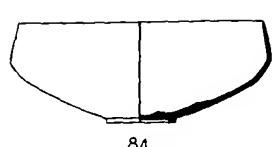


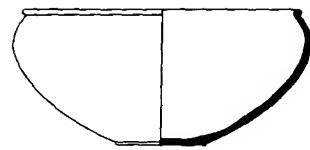
PLATE LXVI

Pottery from Stratum *VII*

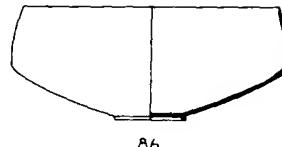
(Scale 1/5, Fig. 77—2/5, Figs. 80, 83—1/10)



84



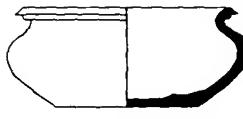
85



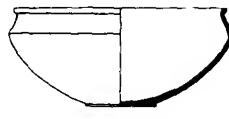
86



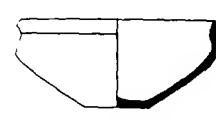
87



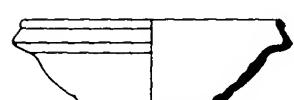
88



89



90



91



92



93



94



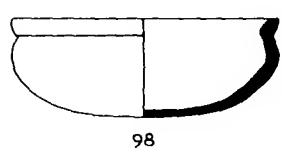
95



96



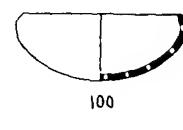
97



98



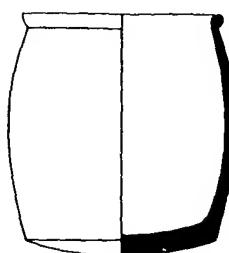
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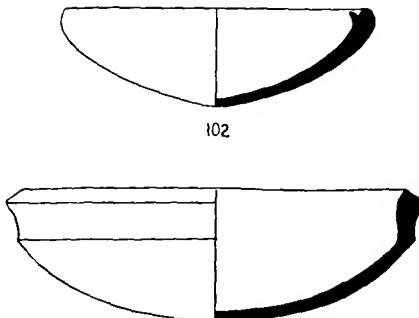
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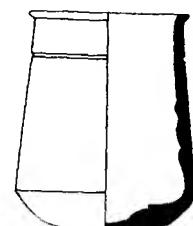
101



102



103



104

PLATE LXVII

Pottery from Stratum VI

(Scale 1:5. Figs. 88, 96, 98-99, 102, 104-105—2'5")

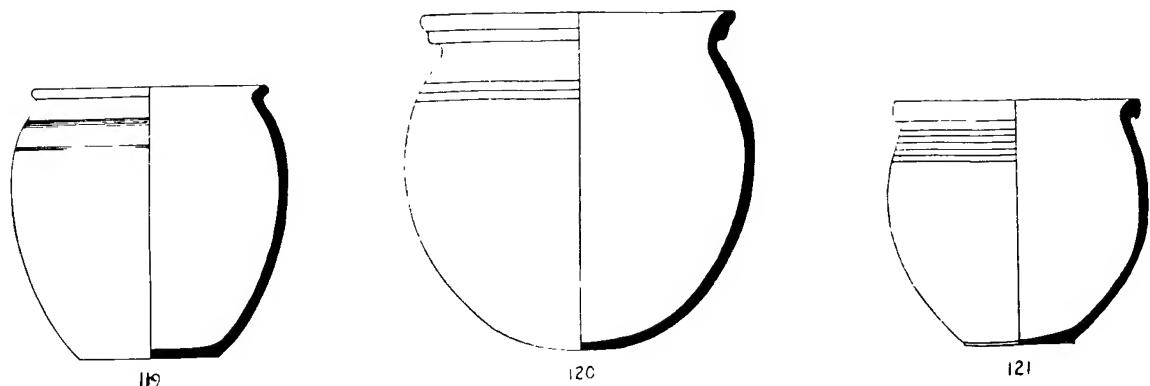
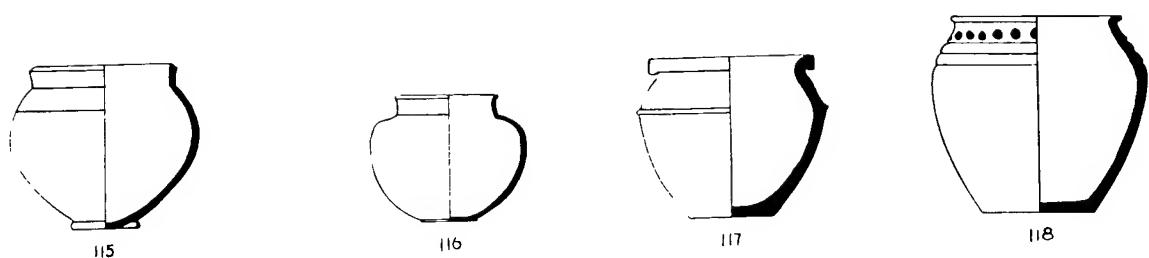
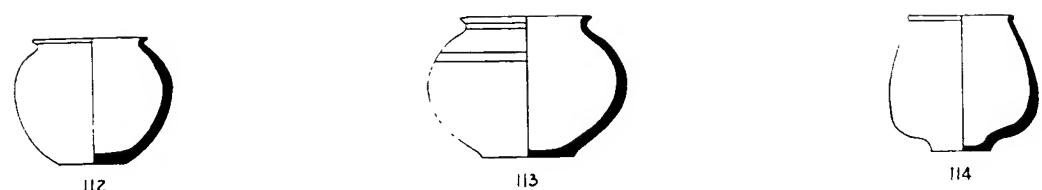
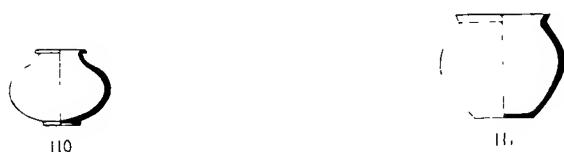
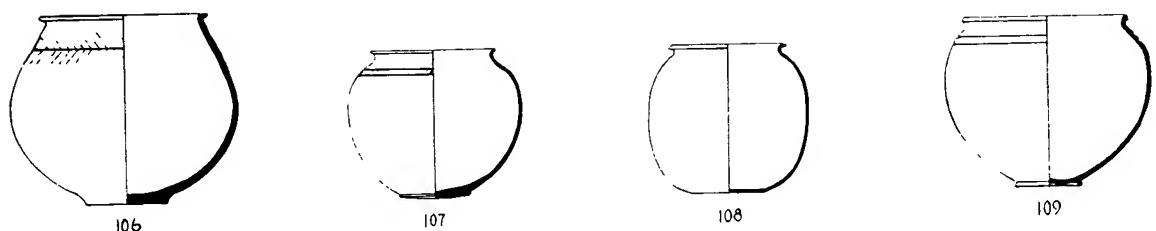


PLATE LXVIII
Pottery from Stratum VI
(Scale 1:5.)



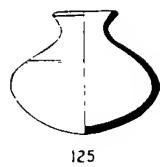
122



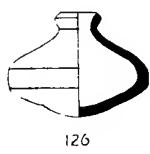
123



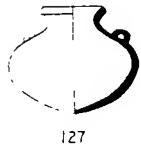
124



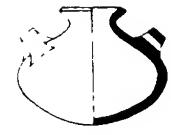
125



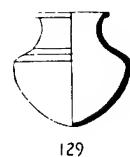
126



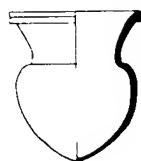
127



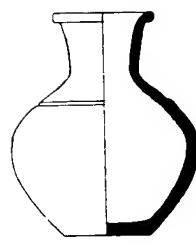
128



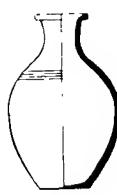
129



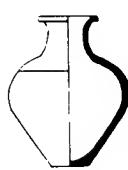
130



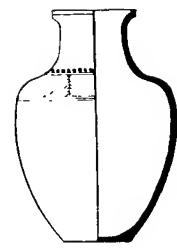
131



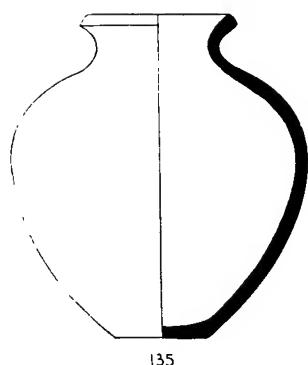
132



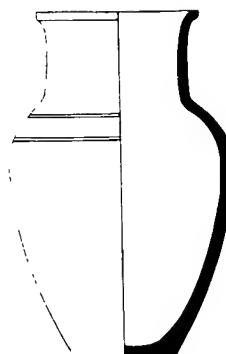
133



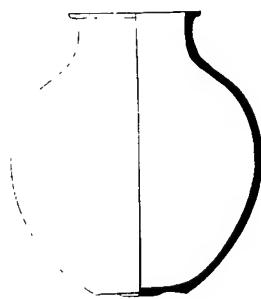
134



135



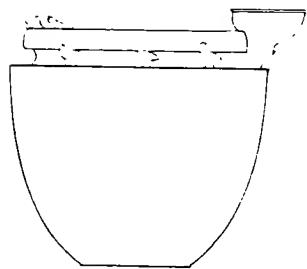
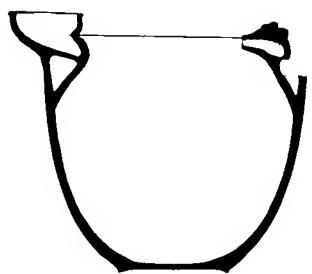
136



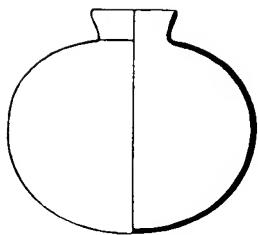
137

PLATE LXIX

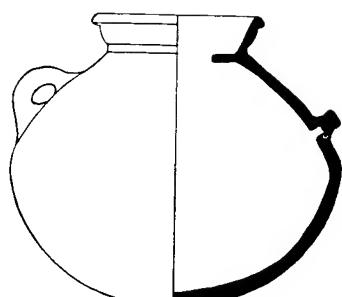
Pottery from Stratum VI
(Scale 1/5 Figs. 122, 131—2/5)



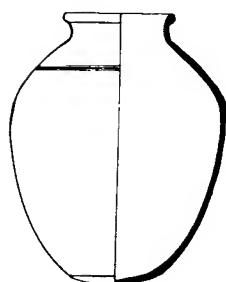
138



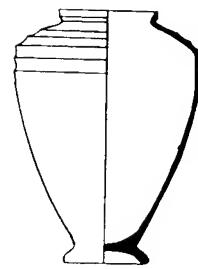
139



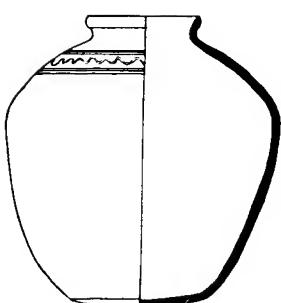
140



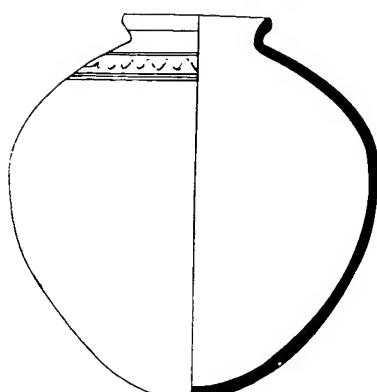
141



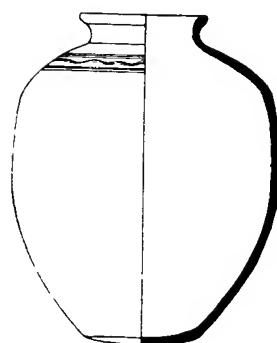
142



143

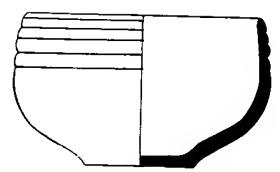


144



145

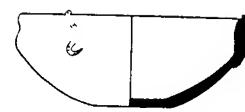
PLATE LXX
Pottery from Stratum VI
(Scale 1/1)



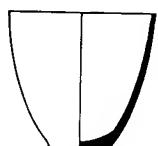
147



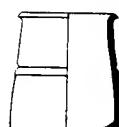
148



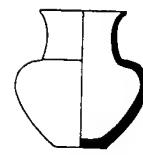
149



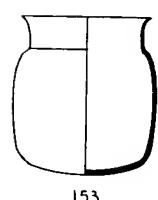
150



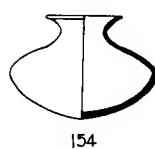
151



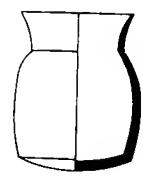
152



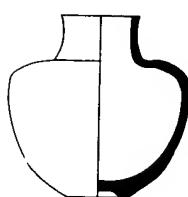
153



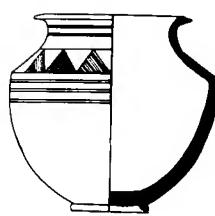
154



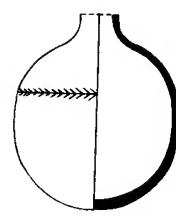
155



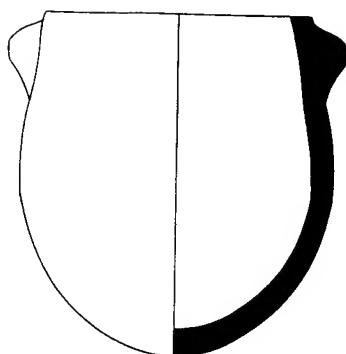
156



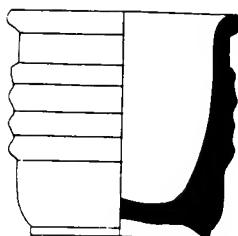
157



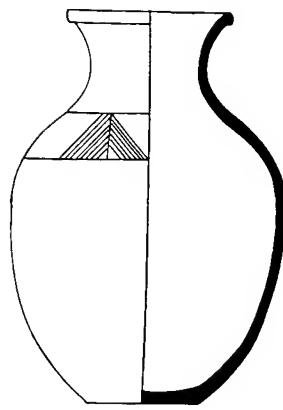
158



159



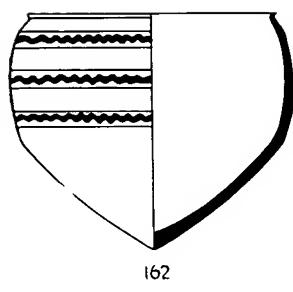
160



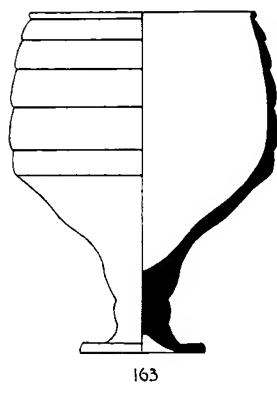
161

PLATE LXXI

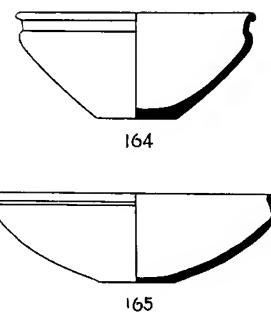
From Stratum V
(Scale 1/5, 147-148, 156, 158--2/5)



162

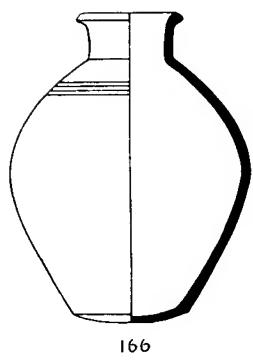


163

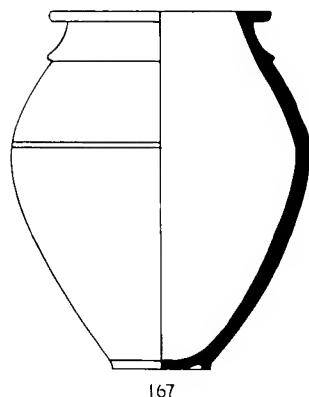


164

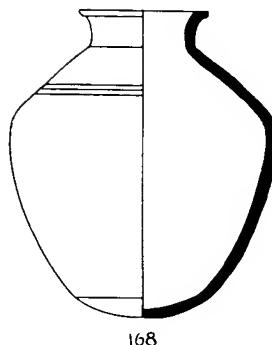
165



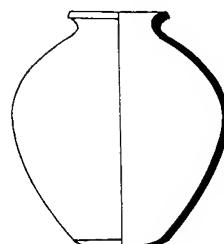
166



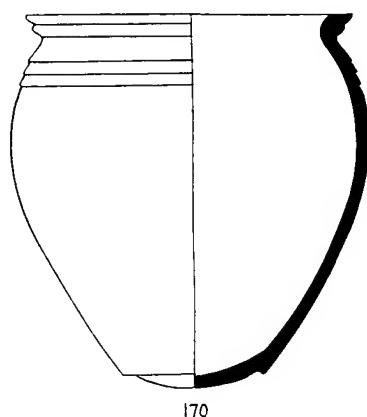
167



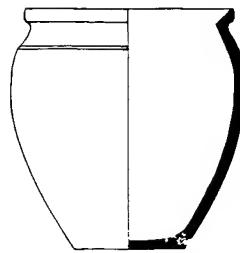
168



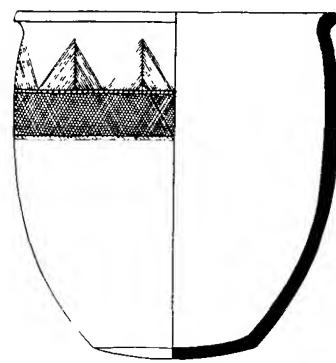
169



170



171



172

PLATE LXVII

Out of Place Pottery Associated with Stratum IV
(Scale 1/5, Figs. 166-169--1-10)

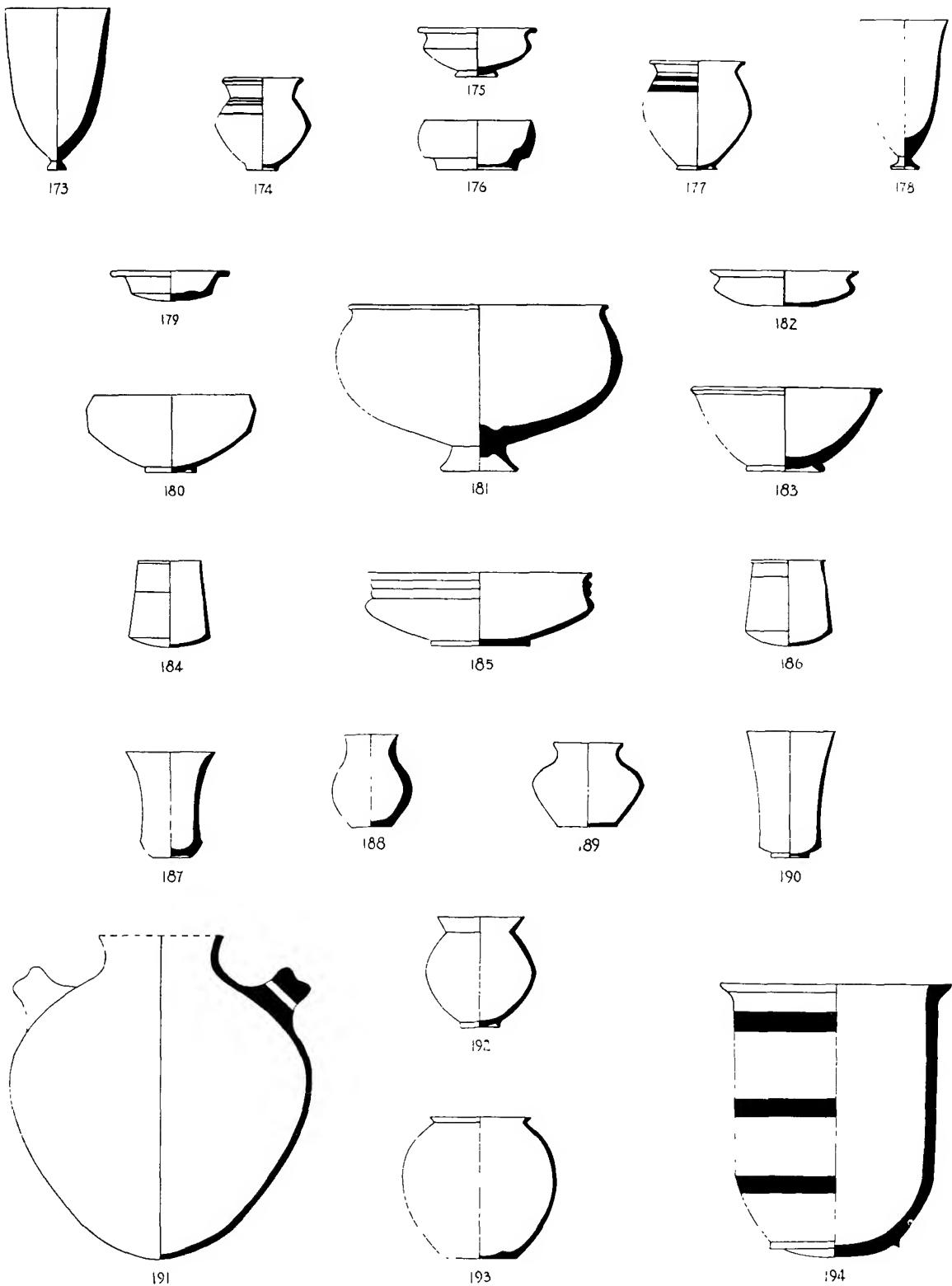
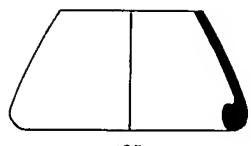


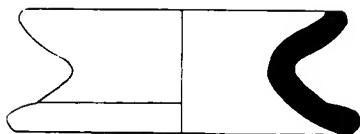
PLATE LXXII

Pottery from Strata I^a-I^b

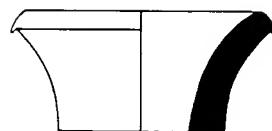
(Scale 1:5 Fig. 176, 181, 188-200, Fig. 183, 1-10)



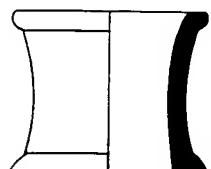
195



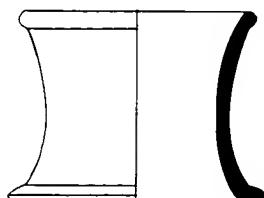
196



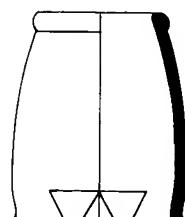
197



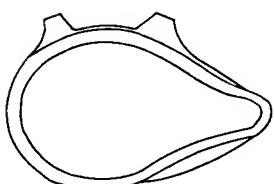
198



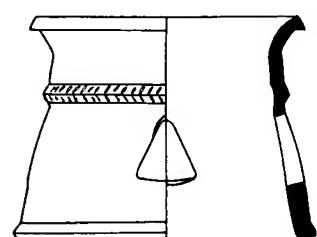
199



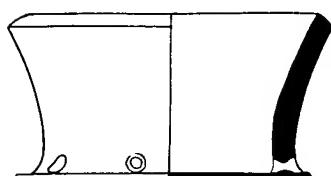
200



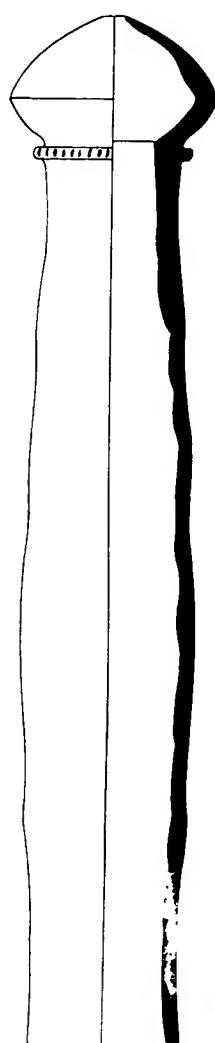
201



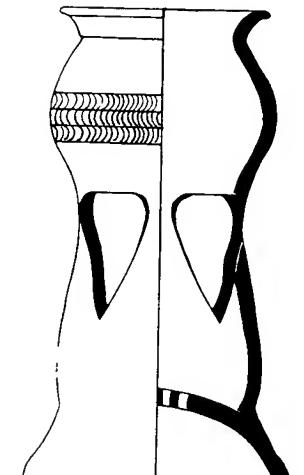
202



203



204



205

PLATE LXXIV
Cult Objects, Pottery, Oils and Lamp
(Scale 1/5. Figs. 195, 201 - 2/5, Fig. 199 - 1/10.)

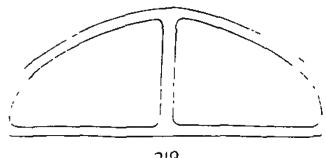
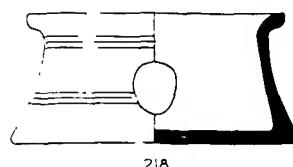
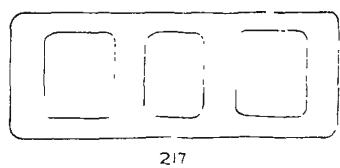
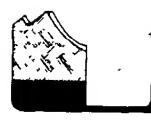
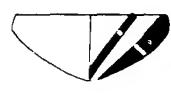
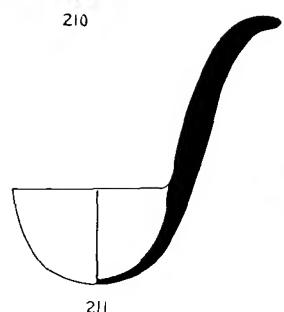
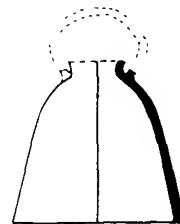
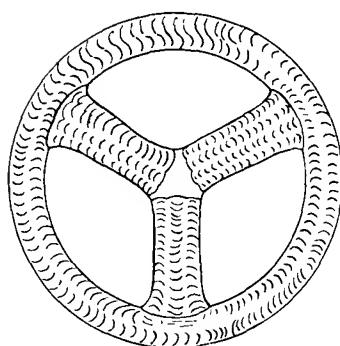
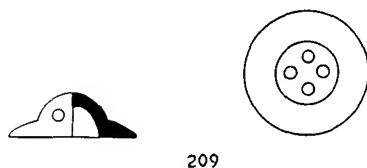
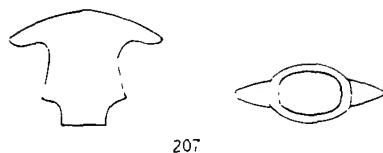
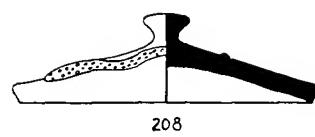
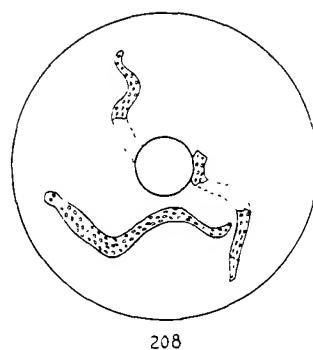
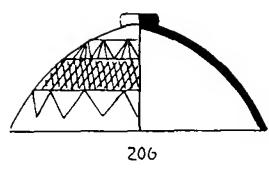


PLATE LXXV

Miscellaneous Pottery

(Scale 1/5 Figs. 215, 219-2/5 Figs. 217-218-- 10, Figs. 207, 210-1'2)

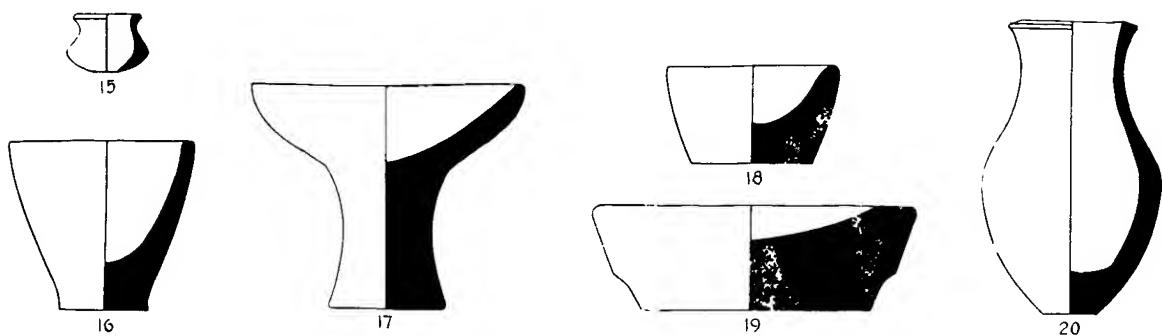
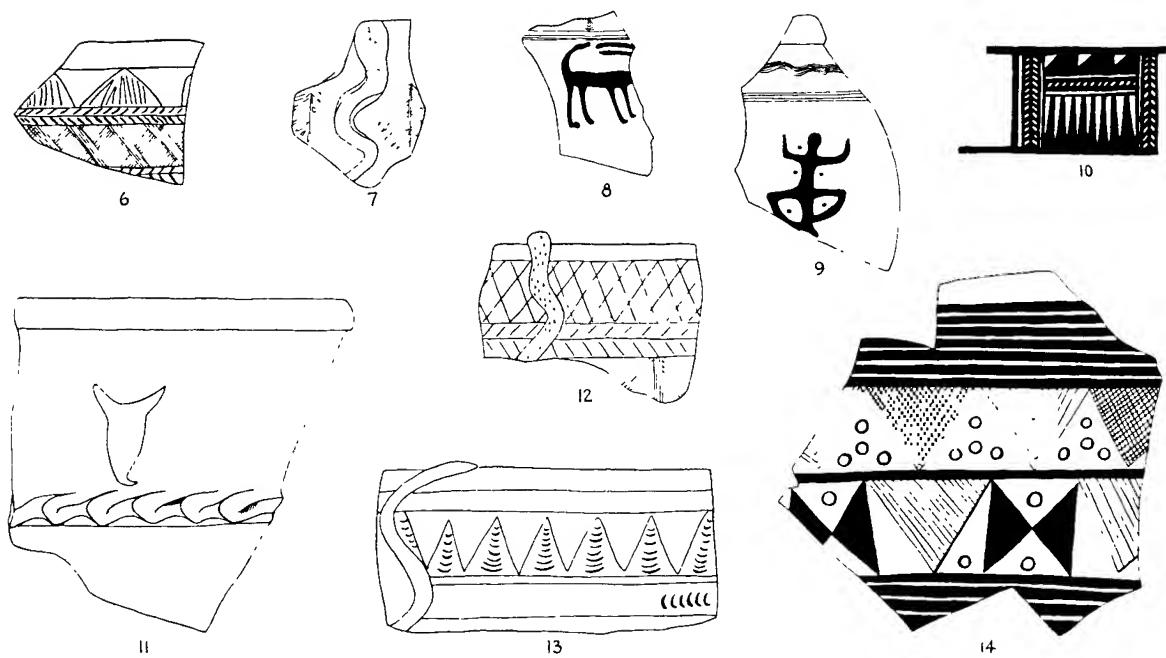
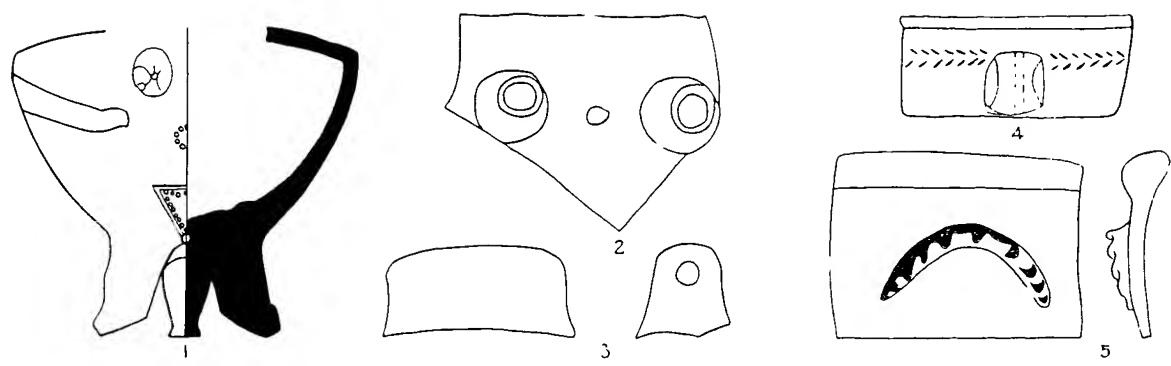


PLATE LXXVI

Figs 1-14. Pottery Fragments. Fig. 15-20: Stone Vessels
(Scale 1/5, Figs. 1-2, 4, 15-20, 1/5, Fig. 17-1/10)

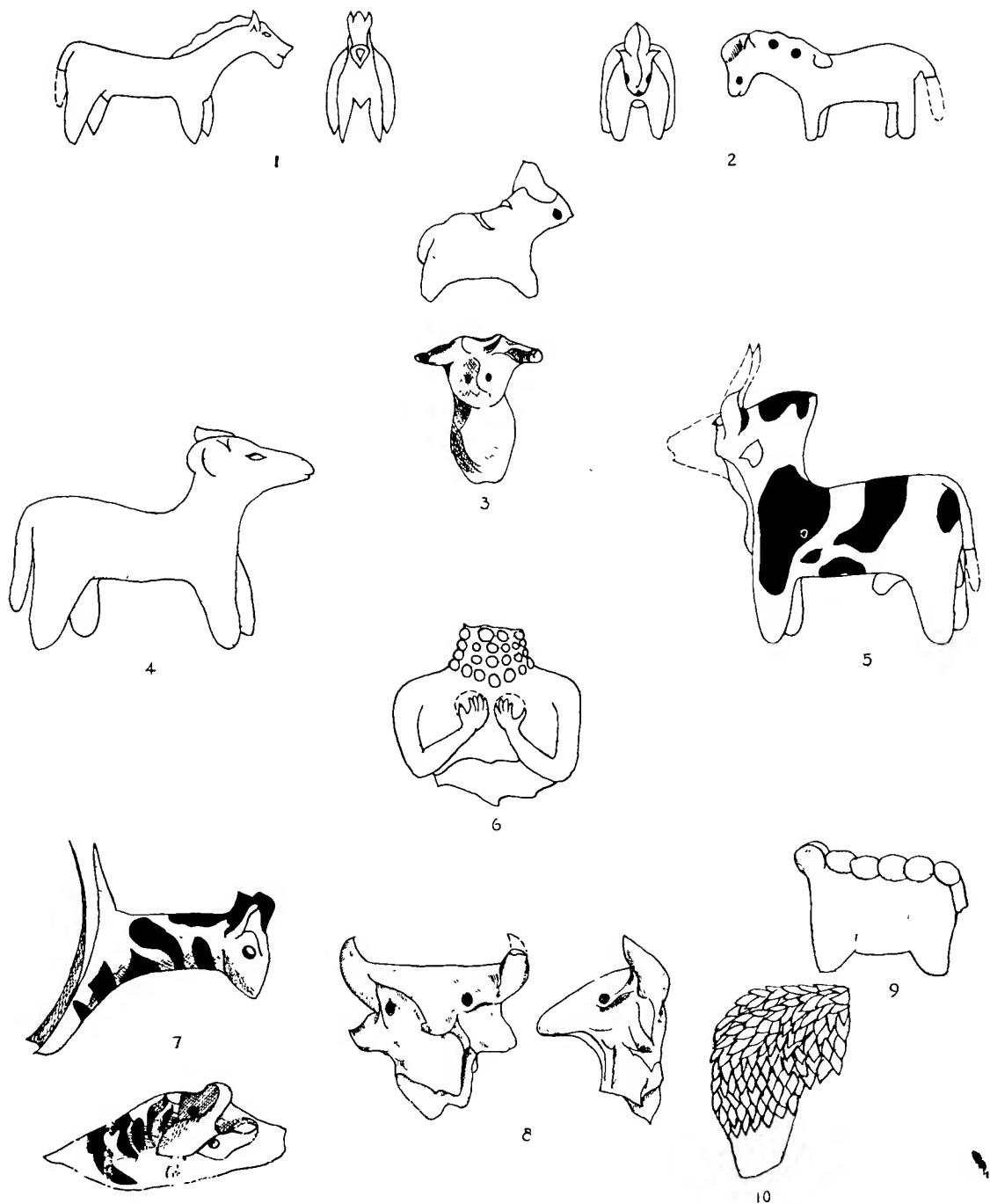
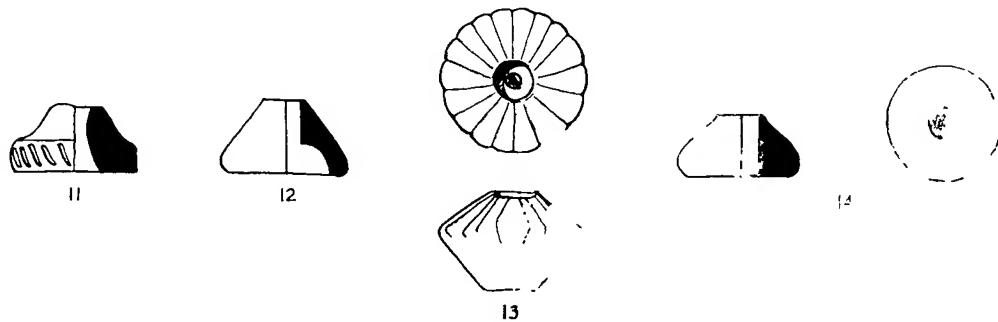
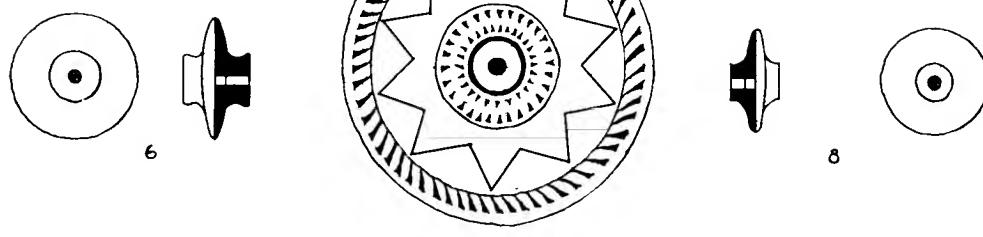
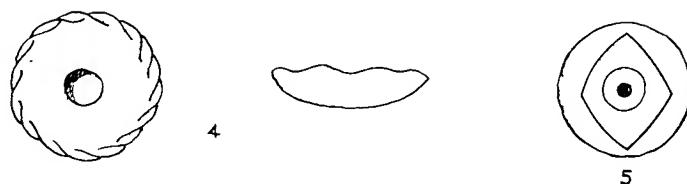
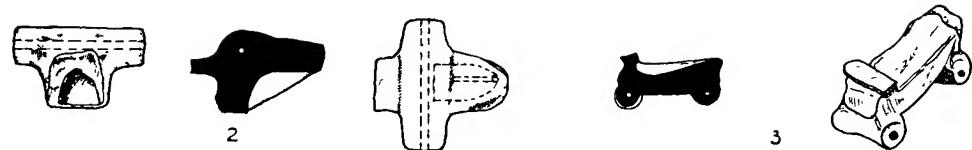
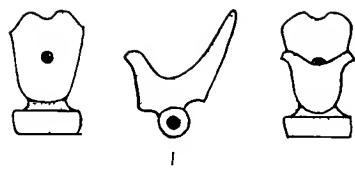


PLATE LXXVII

Terracotta Figurines

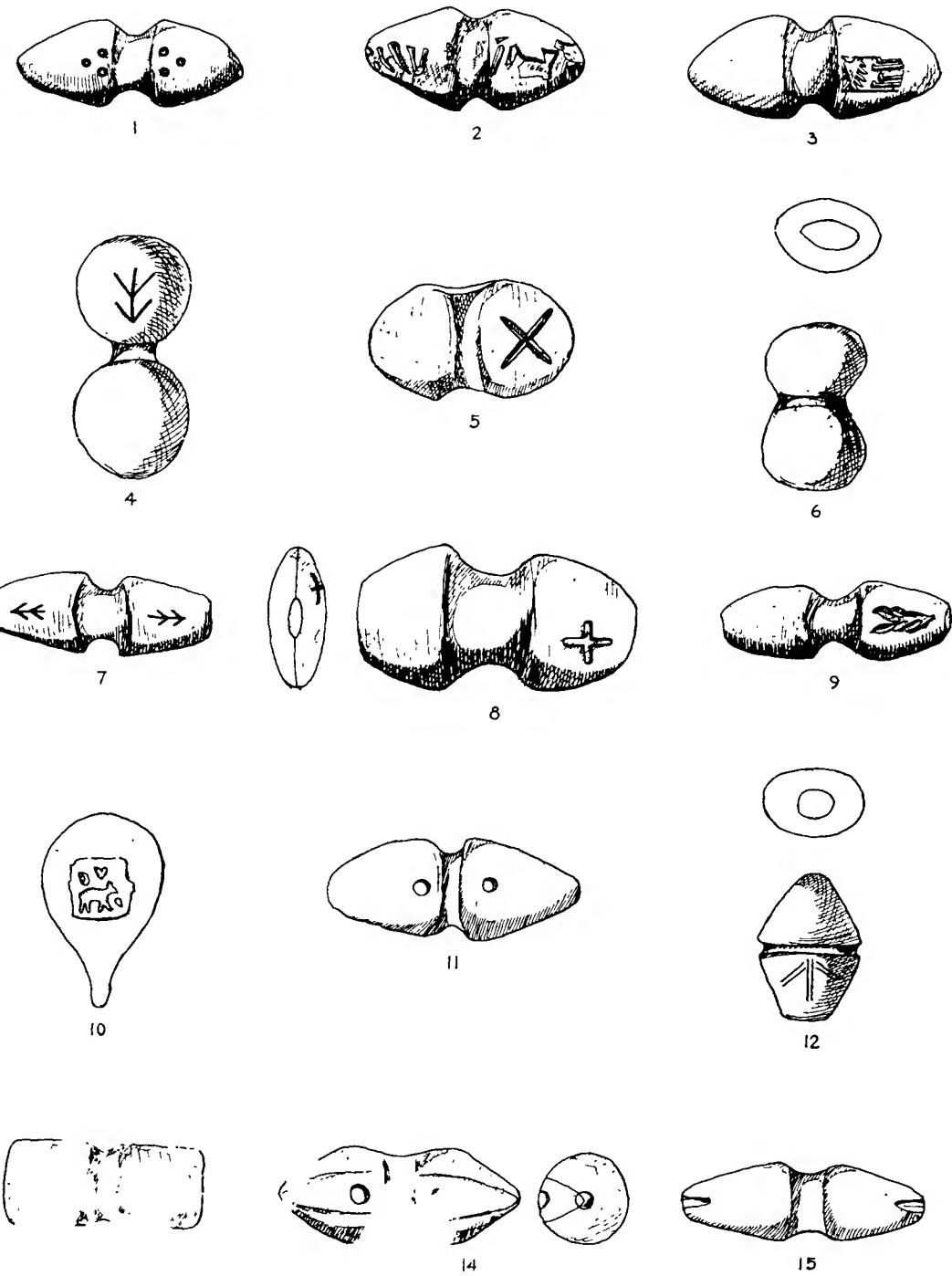
(Scale 1/2 - Fig. 1 - 1'5)



ATT. L. XVIII

Terracotta.

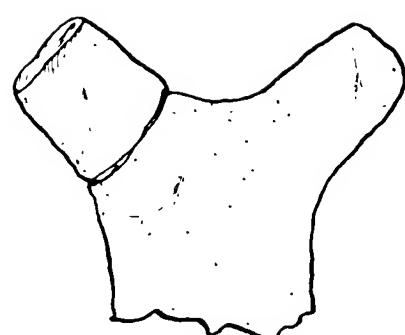
(Scale: 1/2; Fig. 1 + 4-5 = 2 1/2)



P* LXXIX

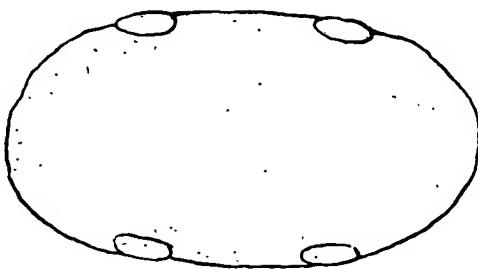
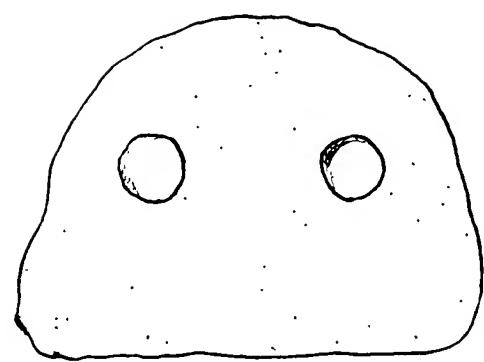
(ta Bobbin;
Scale - 2)

and
(Sc.)

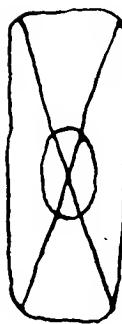


2

3



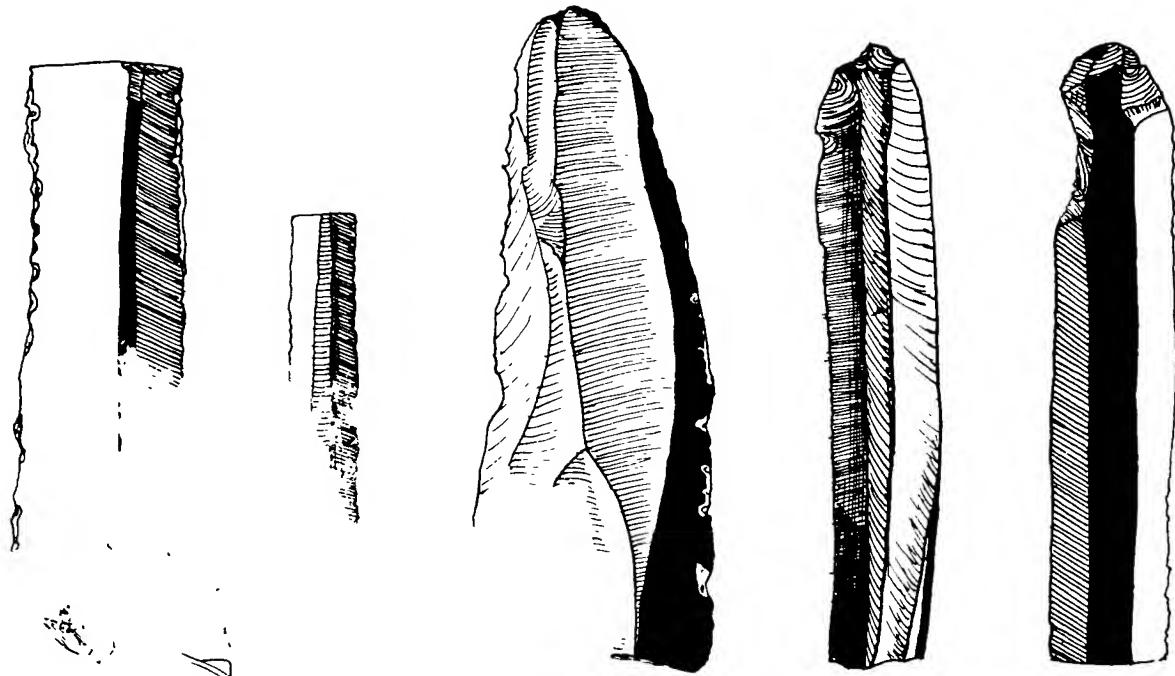
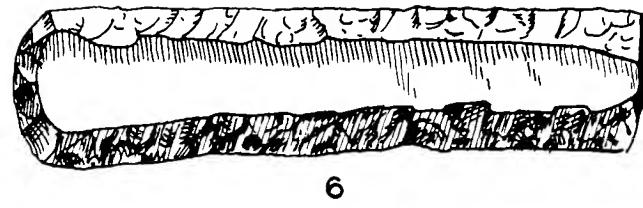
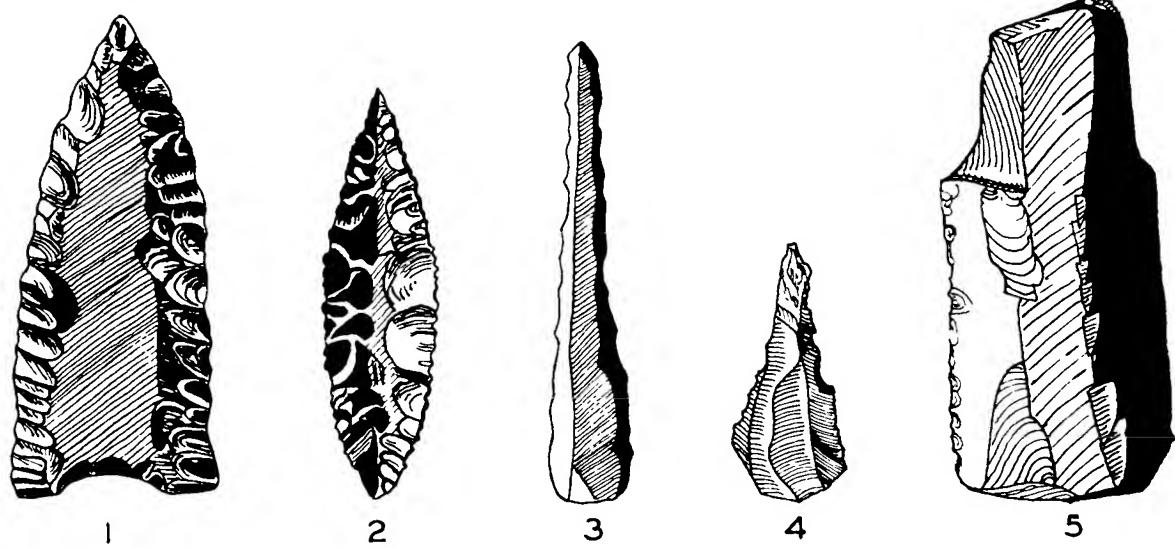
4



5

N
(Ceramic Fig.)

-17-



20

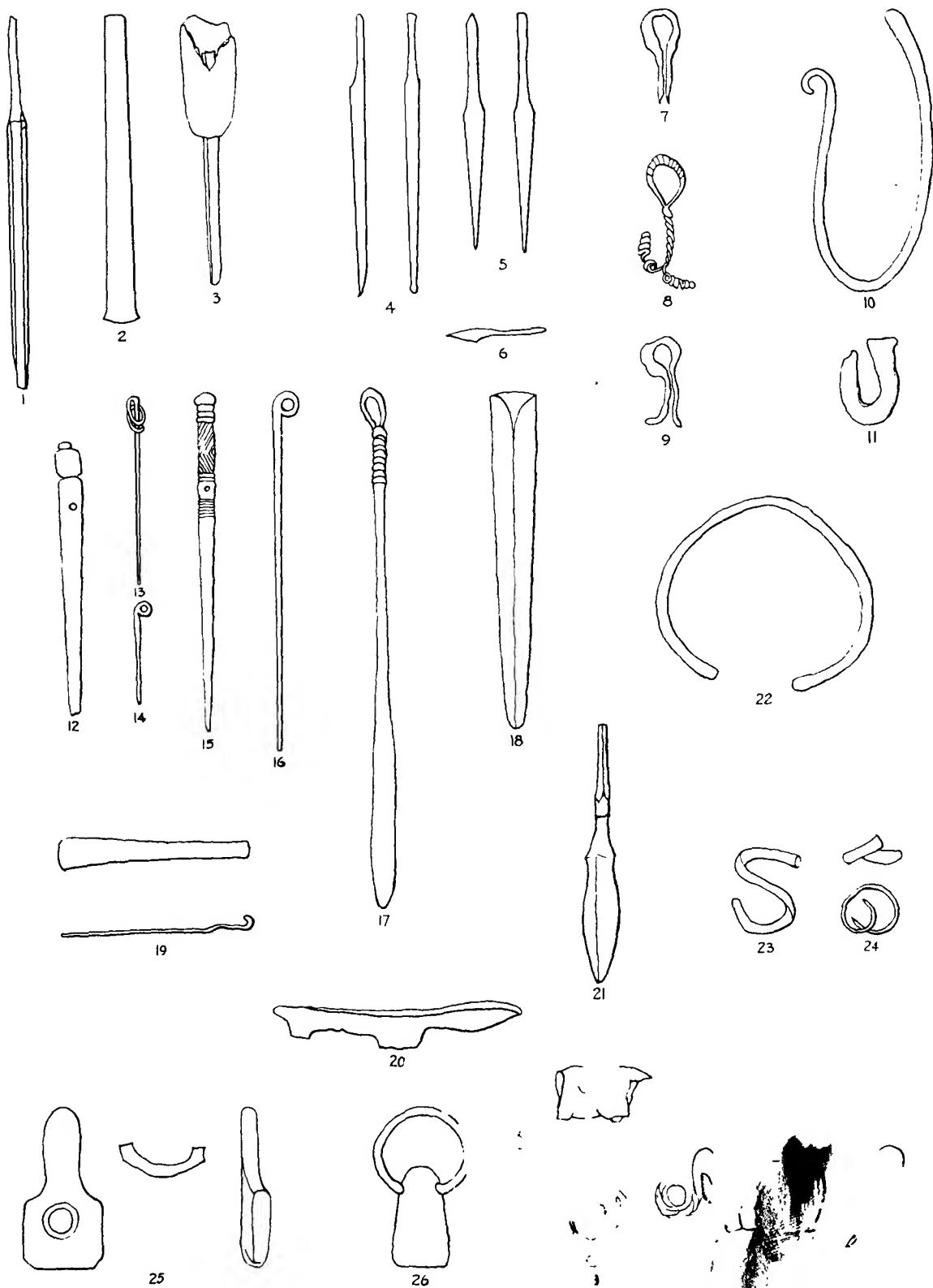


PLATE XXXII
Copper and Bone Objects
(Scale 1/2)

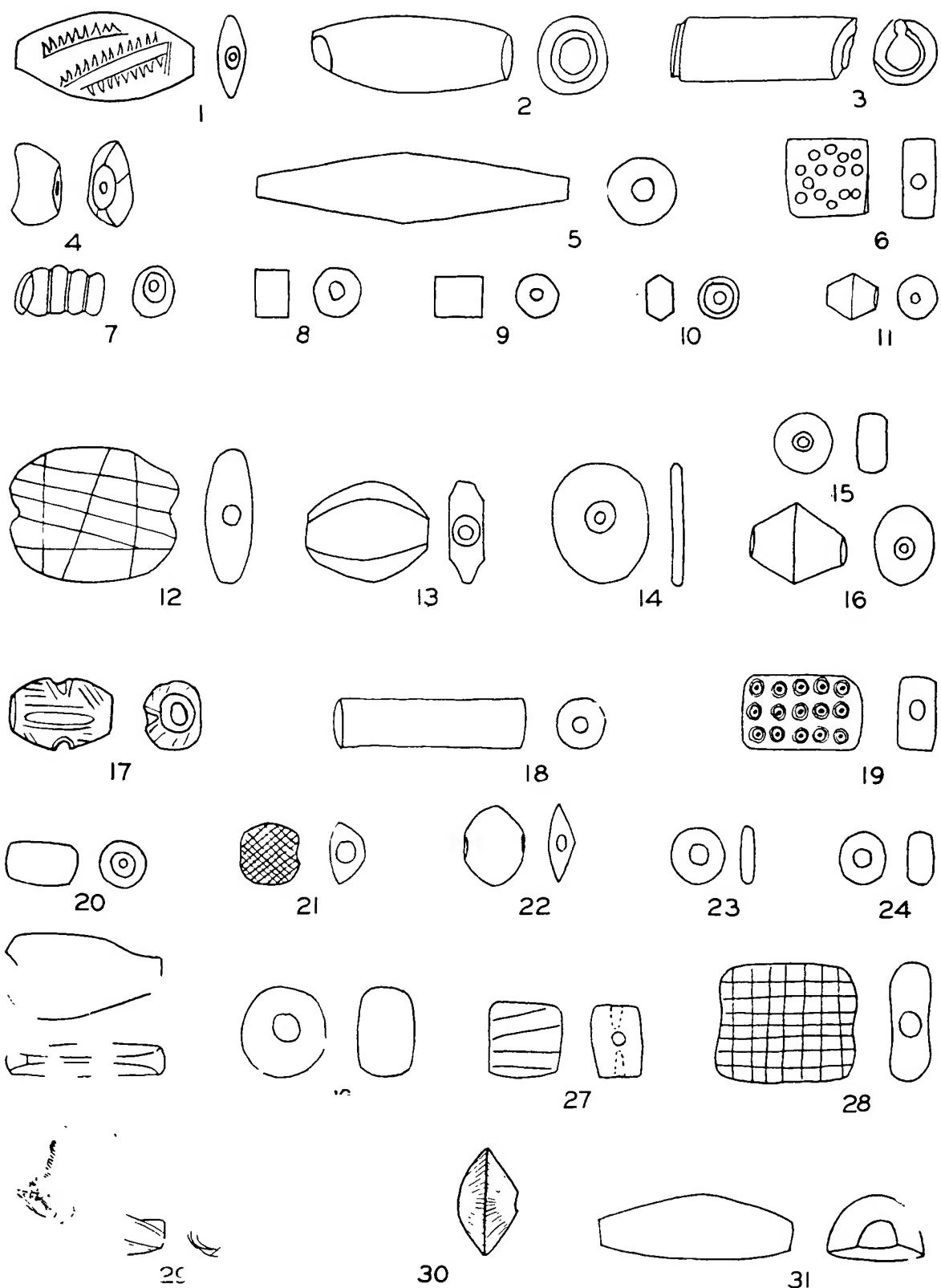
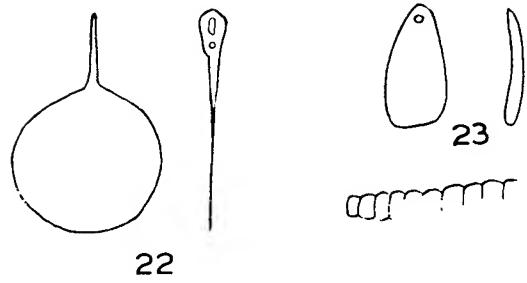
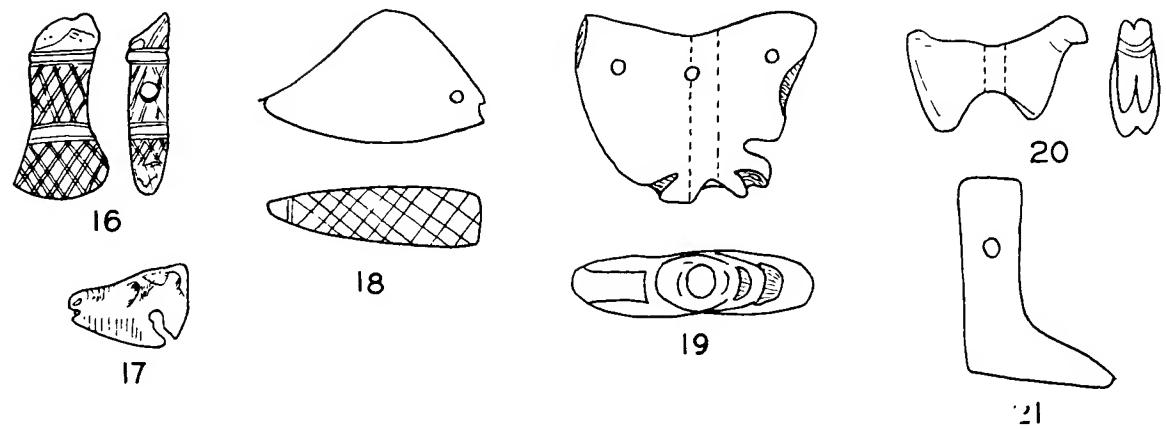
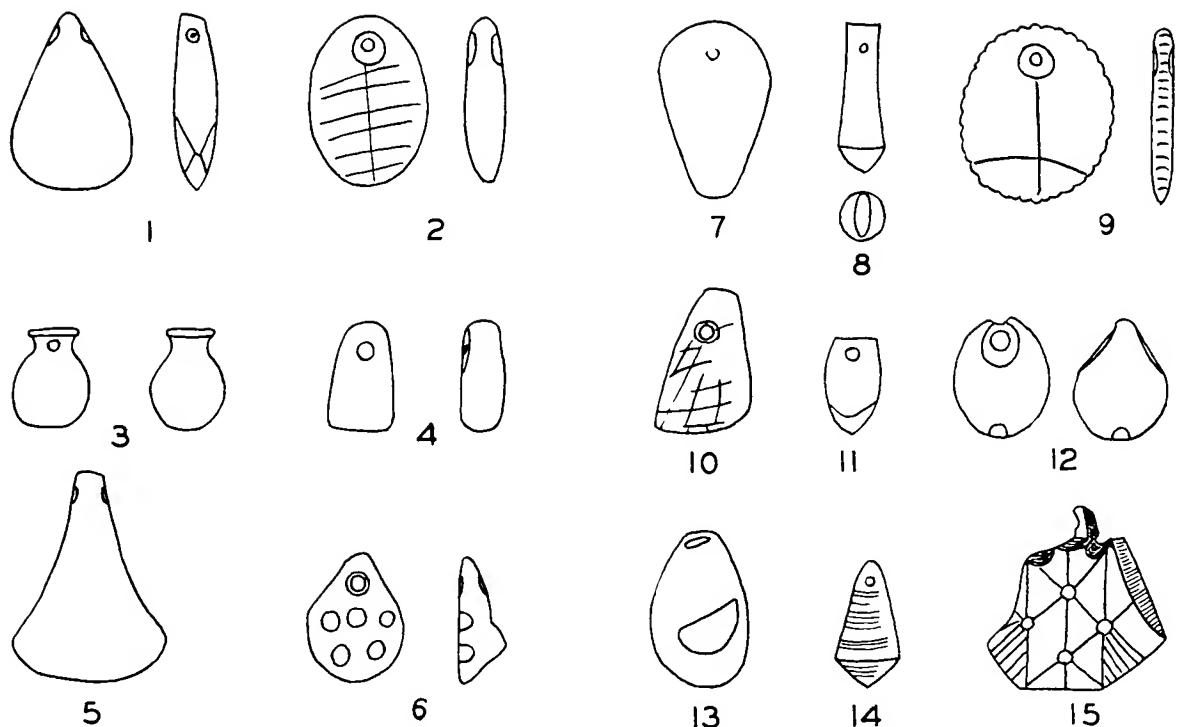


PLATE LXXXII

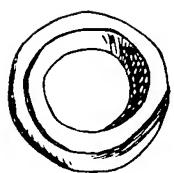
Sexted Beads

Scale 1/1.

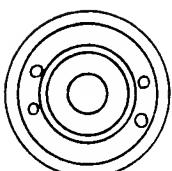


71





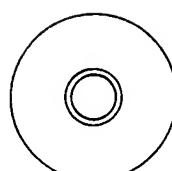
1



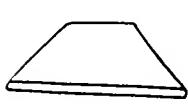
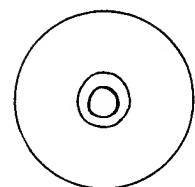
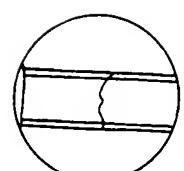
2



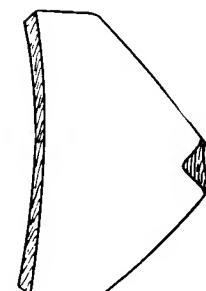
3



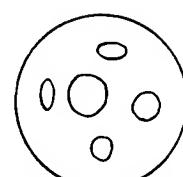
4



5



6



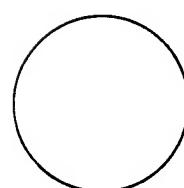
7



8



9



10



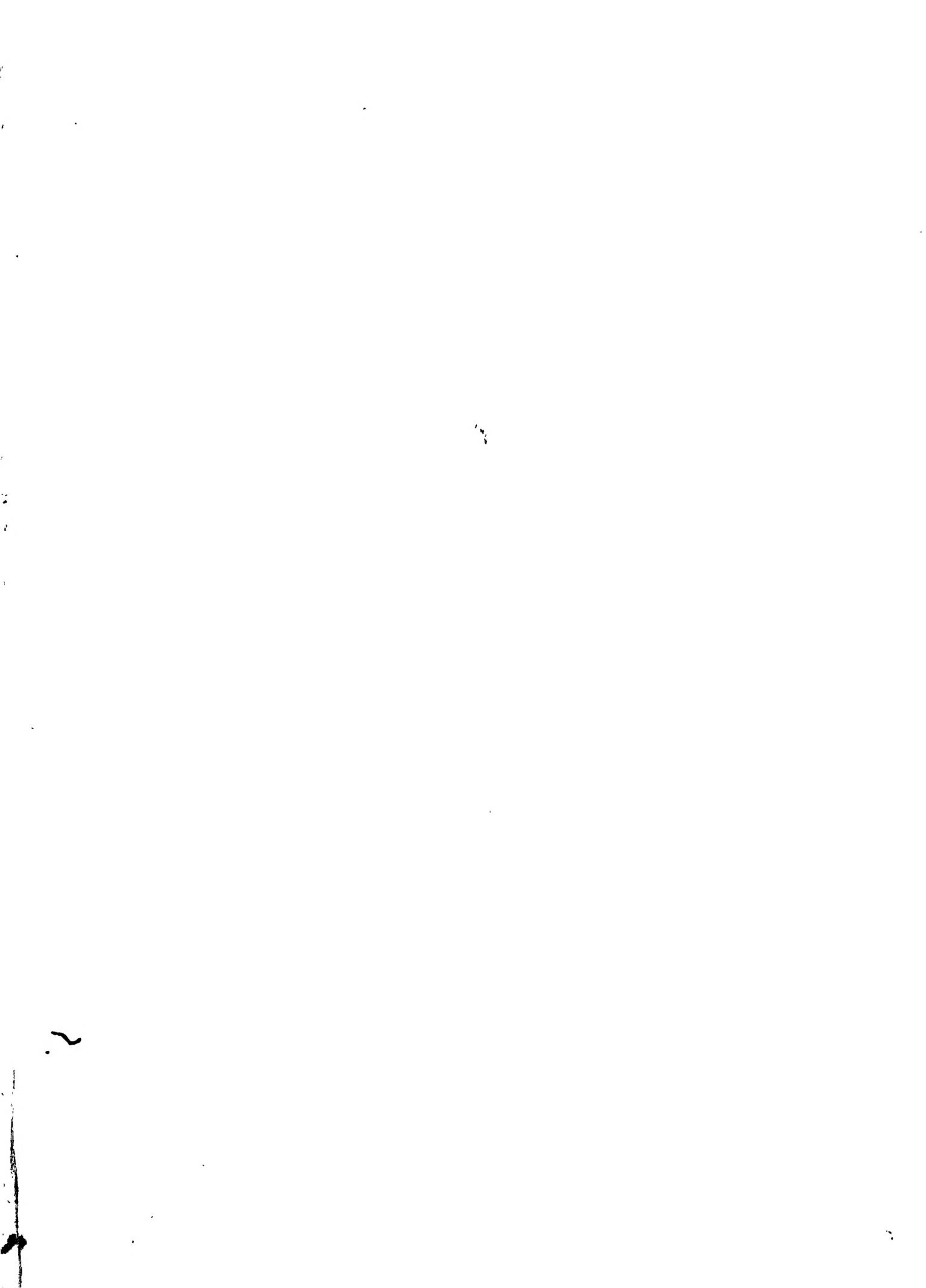
12

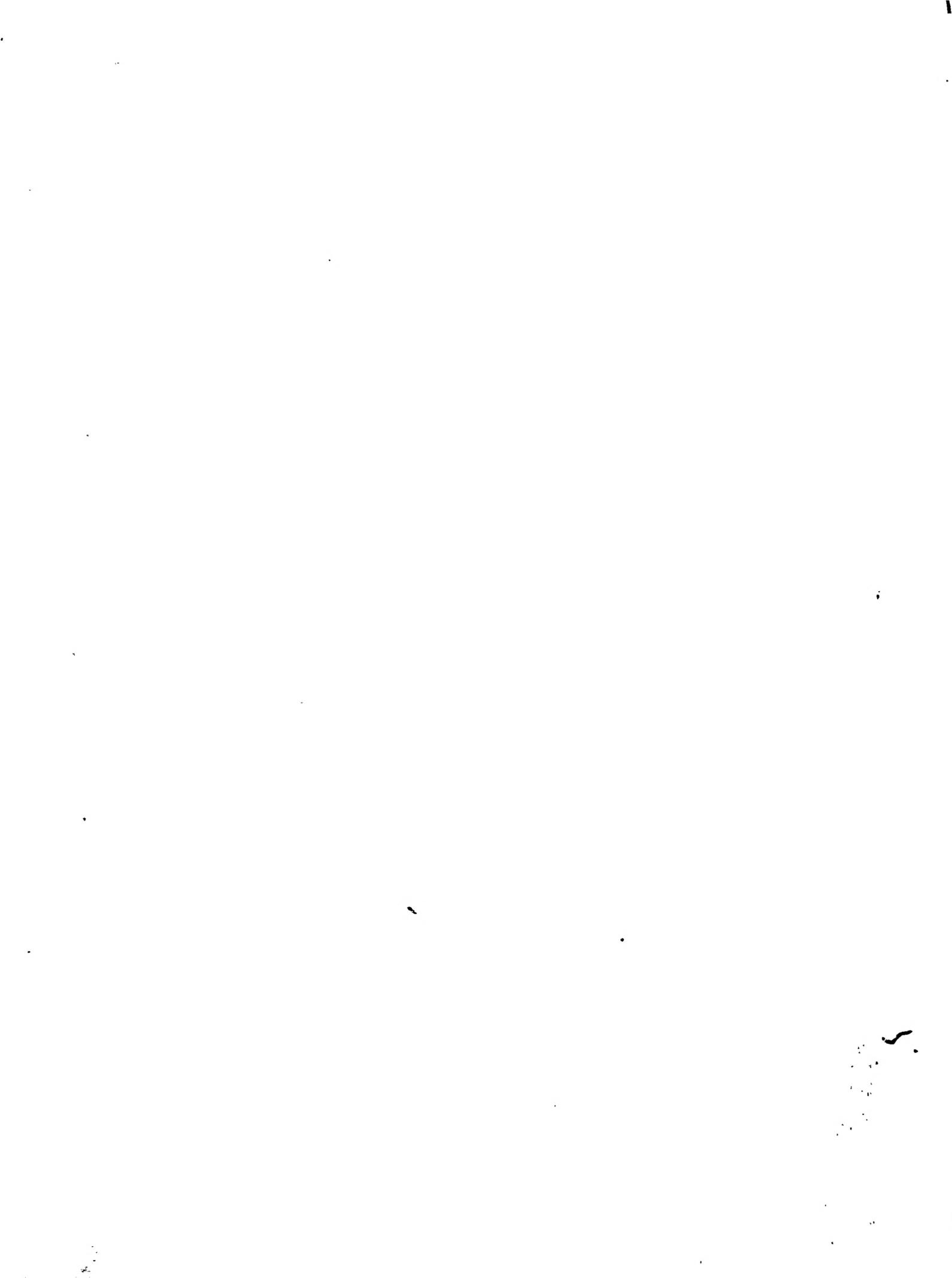




PLATE LXXXVI
Map of Mesopotamia

S. Cuth
14/1/77





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